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The Prevention of Consumption

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As Chairman of the Committee on Public Health, I have prepared a paper to present to you tonight on the subject of the preventive treatment of pulmonary tuberculosis.

I offer no apology for selecting this subject for discussion. There is no topic attracting greater attention today, for there is no disease creating equal destruction among the human race. There is no disease that promises more in the way of its prevention and its cure.

For 2,000 years tuberculosis has been looked upon by many as a contagious disease. The Greeks and the Romans regarded it in this light. Its infectiousness was not proved until Villeman made his experiment in 1865, when he found that he could uniformly infect an animal by inoculation with the sputum of a person afflicted with pulmonary tuberculosis. Guinea-pigs and rabbits became early infected with general tuberculosis.

He, of course, at once contended for the existence of a specific, infectious substance. This position, while strongly assailed by some of the most able workers of the time, withstood well the onslaught made upon it, until the true nature of tuberculosis was proven in 1882 by Robert Koch. Strange to say, Cohnheim, who first vigorously assailed the observations of Villeman, later saw the error of his own observations and became a firm adherent to Villeman's doctrine of the existence of a specific poison of tuberculosis. Cohnheim changed front to this view before Koch's dis-

covery. Koch's work was painstaking and conclusive. It was conclusive in that the tubercle bacilli were proven to be not only present in every case of tuberculosis, but that these germs were capable of infecting guinea-pigs and rabbits after a definite time of incubation. If these germs could be depended upon to uniformly produce the disease in these animals after infection by inoculation, and as the germs were always present in tuberculosis, the fair inference was, of course, that they were the cause of consumption. If these germs were the cause of consumption and you could successfully infect animals, why would not these germs infect man by being breathed into the air-passages?

It is the belief of the vast majority of the medical profession of the civilized world today, that under certain conditions of the general system and careless or ignorant disposition of the sputum of a patient, coupled often with bad hygienic surroundings, that this disease is conveyed from one patient to the other, that it is a specific, infectious disease; that this infection rests in the sputum in the form of the bacilli of tuberculosis; that these bacilli as a rule only find their way into the system through the air-passages, only after the sputum has become dried; that this infection does not pass from body to body, but only in the way indicated. Many would classify pulmonary tuberculosis as a contagious disease, but the term infectious disease, or a disease communicable by infection, seems to me to be more in accord with the facts.

A considerable misunderstanding by the public results by naming the disease a contagious one. Indeed, I think there is often a great laxity of the use of the terms in the medical profession which designate just what we do mean in reference to this very question of infection, contagion, etc. Many use these terms synonymously. Consult some medical dictionary and you find the same thing. This is unfortunate and is capable of working indefinite and widespread misunderstanding among the laity. It is to the laity that we physicians and the State must look in our efforts to lessen, or even blot out from the civilized world, tuberculosis. In some dictionaries, as just stated, little or no distinction is made between contagious and infectious diseases.

Tetanus is an infectious disease, but everybody knows it is not contagious. People have come to know that typhoid fever is alone infectious, but not contagious. One may become infected with malarial fever, but who would say contagious and infectious can be synonymously used here. Septicemia and pyemia result from an infection, and the disease established is a specific, infectious one; but it is not contagious.

Tetanus, glanders, gonorrhea, syphilis, actinomycosis, hydrophobia, anthrax, malarial fever, dysentery, bubonic plague, beriberi, septicemia and pyemia, erysipelas, diphtheria, lobular pneumonia, cerebrospinal meningitis, dengue, influenza, whooping-cough, epidemic parotitis, rubella, rubeola, scarlet fever, varicella, variola, relapsing fever, typhoid fever, leprosy and tuberculosis, are all specific infectious diseases, but they are not all contagious by any means, and we see at once by looking over the list of infectious diseases just mentioned the inaccuracy of using so frequently the word contagious interchangeably with infectious. Simply because a disease is not contagious does not imply that it is not highly infectious.

Septicemia is not contagious, but it is highly infectious. Where there are but few of the specific germs, as in a pure country air, the likelihood of infecting a recently-made peritoneal wound is not what it would be in a room where there was a suppurating wound, and the air was filled with these germs. That is so self-apparent and so consistent with the facts that no argument is required to convince anyone of that. This disease, however, is a highly infectious one. It is only natural that it should infect with sufficient uniformity to give results that no one questions.

It is different with a disease which infects with much less uniformity; a disease to which thousands may be exposed and yet all escape if the conditions are favorable for their escape. However, infecting a patient here and a patient there, after having permitted so many to escape infection after repeated and prolonged exposures, it is only natural that such a mode of infection should be sometimes doubted as to whether that specific disease is transmitted from one patient to another, either directly or indirectly. Tuberculosis is a specific infectious disease. How does it infect? Is it contagious? Is it communicable from one patient to another?

Dr Hermann M. Biggs, in an address on "Preventive Medicine in the City of New York," delivered before the British Medical Association at Montreal, says that: "It is now universally admitted that tuberculosis is infectious and is communicable, and the most fatal disease to which the human race is subject. Yet, as a rule, no effective measures, or no measures at all, have been adopted by sanitary authorities with relation to it. We believe, nevertheless, that it may be more easily controlled than any other of the principal infectious diseases with which we have to deal, and that it is of as great importance—judged by the deaths it causes—as all the other together."

In 1893, the Health Department of New York passed a rule

requiring physicians to report all cases of tuberculosis, and in 1897 it was declared by this authority to be an "infectious and communicable disease." In the same address Biggs remarks: "It has always appeared to the Health Board exceedingly desirable that a broad distinction should exist in the public mind between this disease and those diseases which are more properly classed as contagious."

Flick, of Philadelphia, in a reprint on the "Contagiousness of Phthisis" well observes, in speaking of the spread of consumption to new climates hitherto unaffected that "some phthisical climates have lost their reputation, and have gotten to be shunned as places to be avoided. The whole Pacific Coast, as well as Florida and Colorado, is acquiring a doubtful reputation for consumption."

While discussing the manner of infection, S. A. Knopf, of New York, in the *Journal of the American Medical Association*, quotes a conversation with Von Ruck, who says: "To judge from a carefully kept history of many thousands of cases from all over the United States, which have come under his observation, the majority of cases of pulmonary tuberculosis, in his opinion, had their origin in the ingestion of tuberculous food of some kind."

While quoting from this same author, I shall digress for a moment from the consideration of the position which tuberculosis occupies as an infectious disease, to quote a few words he has to say on the preventive treatment of pulmonary tuberculosis. I only quote him to show the absurd degree to which he and many others go who have insufficiently reasoned this question out. He says: "It is impossible to hinder a consumptive from entering a Pullman car, and that if it were a law whereby he could be prevented from doing so, it would be well nigh impossible to enforce it. I grant this to be true, but if our wealthy railroad corporations which habitually transport consumptives to and from health resorts could be induced to run ambulance cars, especially adapted to the purpose, a good deal of danger now existing would be done away with. If these ambulance cars would offer to the traveling consumptive only twice the ordinary breathing space, and if the railroad company would be magnanimous enough to have a trained nurse in charge of each car, the accommodation thus offered would be eagerly sought by all invalids, even an additional price would not deter the average patient from making use of this mode of travel, which would certainly lessen to a marked degree the many discomforts from which he has to suffer in the ordinary sleeping-car."

This would seem to be going to an extreme and would be of doubtful utility. Suppose the measure was put into force.

In the old way of traveling on the Pullman cars there were at most a few days of not very intimate association, while in the railway ambulance there would be complete isolation. At the end of these few days the patients would take the same carriages, take their meals at the same tables, walk the same streets, occupy the same street cars, and attend the common amusements provided for others. So if there were really any danger in transporting these tuberculous people in the Pullman cars, that danger is forgotten the moment of the arrival of the railway ambulance at its place of destination.

By the providing of the railway ambulance you have put the railway to great expense in providing this means of transportation with doubtful good accomplished. This is not all however. You have done great harm to the patient in having led the public to shun him as they would a mad dog. It helps to give the public an exaggerated notion of the degree of the communicability of this disease. Even more, it helps to bring the whole question of the preventive measures into ridicule, and prevents many people from doing things which would have a real bearing on its prevention.

Is pulmonary tuberculosis a contagious disease? No, not in the sense that one person will contract it from another, unless he gets some of the sputum into his lungs.

Is it infectious? Can one person acquire tuberculosis from another through the medium of the sputum? Yes, the over-ruling mass of testimony is in favor of such a proposition.

Is this the chief and only means of infecting a patient with pulmonary tuberculosis? No, many think it is not the only method of conveying the infection but that it is not even the chief means. There are many who, despite Dr Koch's views to the contrary, believe that meat from tuberculous cattle is one of the means of infecting the human race; that it is more—the chief mode of infection.

The number who believe meat from tuberculous cattle to be the main cause of infection in the human subject is very small, of course, compared with those who believe that the germs from the dried sputum finding their way into the air-passages is the usual mode of infection. Milk from a tuberculous cow is an occasional mode of infecting the individual.

In a paper read before a society in Sydney, Australia, Dr Mullins reports a number of cases of tuberculosis developing apparently as the result of drinking milk from a tuberculous cow. This has been and is the belief in this country among the majority

of physicians, that milk from a tuberculous cow may infect the individual who drinks it.

It is impossible to prove this for the reason that so many drink tuberculously infected milk and yet escape with impunity. It is only the occasional one who contracts tuberculosis from drinking infected milk, but the number who are infected apparently by this means is too large to ignore altogether. Tuberculous meat and tuberculous milk should not be permitted or sanctioned by the medical profession as a safe diet until the danger of contagion from their use is settled beyond all question.

Who among that portion of our profession who do not believe in the identity of bovine and human tuberculosis would willingly drink milk from a tuberculous cow, or eat the meat from such an animal?

If pulmonary tuberculosis is chiefly transmitted by the bacilli contained in the sputum, what are the conditions which favor the infection?

1. Concentration of the poison.
2. Intimate association and prolonged contact with the tuberculous individual.
3. The condition of the health of the exposed person.
4. Feeble power of resistance as expressed in the construction of the individual, known as hereditary tendency.
5. Slight acclimatization of the individual to the tubercular infection.
6. Occupation.
7. Diet.
8. Climate.

First: Concentration of poison. It seems but natural, and facts seem to prove its truth, that a person breathing an atmosphere heavily laden with the tubercle bacilli is more apt to acquire pulmonary tuberculosis than in a lightly charged atmosphere. Where the association is constant by day and by night with a tuberculous patient, the amount of concentration of the bacilli to which the individual will be exposed will depend upon several factors. It would clearly be modified by

(a) The amount of care exercised in the disposal of the sputum. If the sputum is systematically collected in cloths and burned, or in handkerchiefs which are promptly cleansed in boiling water, before the sputum has time to thoroughly dry, or in cuspidors which are promptly cleansed and disinfected, the chance of infecting the atmosphere is, of course, very small compared with what it would be if the sputum is carelessly and indiscriminately

disposed of. I presume in any case of advanced consumption the danger of contaminating bed-clothes or carpets or other portions of the room with sputum which has escaped all the ordinary care which has been given this matter is considerable; so whether the atmosphere of the room has been contaminated by accident or carelessness, the number of the bacilli of tuberculosis in the air of the room will be greatly influenced by

(b) The amount of ventilation afforded the room.

There is an intuitive tendency with tuberculous patients to shut themselves up tightly from the outside air from fear of taking cold. This closing of the doors and windows permits the air to become saturated to a greater or less degree with the infective bacilli. If the patient escapes taking cold by this means, he has done so at too great cost. He has concentrated the infective bacilli in the air of his room; and we should remember, and the patient ought to know that there is such a thing as reinfecting his own lungs in the same manner that he originally infected them. He has done more harm by closing his room so tightly. He breathes the same air over and over, each time depriving the air of more and more of its oxygen, and adding to the exhaled air not only the carbonic acid gas as the result of the combustion in the lungs, but doubtless other impurities as well.

The result of all this is that the patient's health and resisting powers are diminished. He is less able to throw off any existing amount of disease and is an easier victim to the extension of that disease which already afflicts him.

As the amount of pure air, frequently changed, is interfered with, the blood is more imperfectly oxygenated, and the moment the high standard of the purity and strength of the blood is interfered with that moment the vitality of the organism is diminished.

At the same time that the patient has been increasing his chances of reinfection by shutting out fresh air, he is greatly increasing the risk incurred of infecting those around him, and for precisely the same reasons.

(c) The amount of sunlight admitted to the apartments modifies the amount of danger incurred by those who live with a consumptive patient.

It has long been understood that disease-producing germs do not live and thrive with the same degree of energy in light that they do in darkness. With a flood of sunlight admitted to apartments, the tubercle bacilli are not only reduced in number, but those

which remain are undoubtedly diminished in their virulent and infective properties.

Besides, if an individual who is not infected remains in a dark place, he becomes pale, his nutrition suffers, his ability to withstand or throw off an infection is unquestionably diminished.

If he be already infected, how much greater need there is of sunlight to destroy germs in the house in order to destroy the bacilli resting upon carpets, upholstery, window-ledges, wall-paper, and other places, to the end that there will be less chance of re-infecting the patient, as well as those about him.

He needs the sunlight to give him better blood, consequently better color; to give him better digestion, consequently better nutrition. Better blood and better nutrition gives the patient a better chance to free himself from and a better chance to prevent tuberculosis.

(d) Environments.

Environment has much to do with the acquiring of tuberculosis. It is also an equally great factor in the question of the cure of the disease.

If one has acquired pulmonary tuberculosis with unhealthy surroundings in his home, how can we expect to cure him while he remains in that home, unless it is improved in every sanitary surrounding? In crowded tenement houses and in public institutions which are over-crowded the disease flourishes more than in other places.

Homes so situated that insufficient light enters them, that the drainage of the cellars is insufficient to keep out dampness and mold, are more likely to develop tuberculosis than those in which opposite conditions exist.

Second: Intimate association and prolonged contact with the tuberculous individual.

That such a condition existing would result in the development of the disease more frequently than where one was not in such an intimate relation seems a logical result.

That it does do it, in spite of some facts looking to the contrary, is the belief of a vast majority of the medical profession.

On this question, Osler observes that: "Special danger exists when the contact is very intimate, such for instance as between man and wife. On this point much difference of opinion exists, but the figures seem to indicate that under these circumstances the husband or wife is much more liable subsequently to die of consumption. Of 447 cases of pulmonary tuberculosis at the Johns Hopkins Hospital, in 25 either the husband or wife had been affected with

it, or had died of tuberculosis. In response to a question as to contagion, asked by the Collective Investigation Committee of the British Medical Association, there were 261 replies in the affirmative, among which were 158 cases of supposed contagion through marriage. Weber's cases are of special interest. One of his patients lost four wives in succession, one lost three, and four lost two each."

Flick, in the Transactions of the Pennsylvania State Medical Society, made an observation of all cases of consumption occurring in one ward of Philadelphia for 25 years. He demonstrated that in 33% of the houses they had more than one case. He says: "That during the 25 years scarcely 25% of the houses of the ward were infected."

Again, Osler observes that: "The greater prevalence of tuberculosis in institutions in which the residents are confined and restricted in the matter of fresh air and a free open life—conditions which would favor, on the one hand, the presence of bacilli, in the atmosphere, and, on the other, lower the vital resistance of the individual. The investigation of Cornet upon the death-rate from consumption among certain religious orders devoted to nursing, gives some striking facts in relation of this. In a review of 38 cloisters, embracing the average number of 4,028 residents, among 2,099 deaths in the course of 25 years, 1,320 (62.88%) were from tuberculosis. In some cloisters more than three-fourths are from this disease, and the mortality in all the residents, up to the fortieth year, is greatly above the average, the increase being due entirely to the prevalence of tuberculosis. It has been stated that nurses are not more prone to the disease than other individuals, but Cornet says that of 100 nurses deceased, 63 died of tuberculosis. The more perfect the prophylaxis and hygienic arrangements of an asylum or institution, the lower the death-rate from tuberculosis. The mortality in prisons has been shown by Baer to be four times as great as outside. The death-rate from phthisis is estimated at 15% of the total mortality, while in prisons it constitutes from 40 to 50%, and in some countries, as Austria over 60%. . . . The statistics of the Brompton Consumption Hospital show that doctors, nurses, and attendants are rarely attacked. Dettweiler claims that no case of tuberculosis has been contracted among his nurses or attendants at Falkenstein. On the other hand, in the Paris hospitals tuberculosis decimates the attendants."

In 1894, the Ohio State Board of Health sent out inquiries to every physician in the State to inquire if they had observed any

cases of consumption communicated from husband to wife or wife to husband. Also, any other cases in which there had been an intimate association with the consumptive case which would show or tend to show the communicability of the disease. To these inquiries 1,182 physicians made reply. Of this number 477 gave cases showing the disease communicable; 116 cases were reported as having been communicated from husband to wife and 87 from wife to husband, and 274 cases were given showing the communication of consumption to nurse, relative or friend.

At a recent meeting of the Muskingum County Medical Society at Zanesville, Ohio, before which I had the honor of reading a paper on the Treatment of Tuberculosis of Bone, Dr Chapman, of Toledo, developed the fact in the course of the discussion upon the paper that he had known of case after case of tuberculosis in the same house, a house which was none too well regulated from a sanitary standpoint. There had been no special care exercised in the disposal of the sputum, and no disinfection of the premises after a death.

In well-regulated hospitals in America which care for pulmonary tuberculosis, it is observed that nurses, attendants and doctors do not acquire tuberculosis more than persons in other walks of life, that tuberculous patients may associate among them with impunity.

This at first thought might seem to prove that phthisis is not a communicable or infectious disease. It only proves at least that a tuberculous patient is not a menace to the health of those around him so long as he guards carefully the disposition made of his sputum.

The fact that consumption does not disseminate itself in the well-regulated hospitals is a hopeful sign, that if in the home the same rigid care should be exercised in caring for the sputum then the number of cases will continually decrease; or if hospitals for the care of tuberculosis should be established in sufficient number and be conducted upon a plan that would enable persons of small means to be cared for in them, a large source of infection would be removed from the home, and we would hope, a better opportunity given many of these patients to recover.

In any home well surrounded there is no reason why a tuberculous patient should not be cared for there as well as in a sanatorium, provided the family understood well the care needed to be exercised not only in the disposal of the sputum but also the necessity of ventilation sufficient not to permit reinfection of the

patient, together with a full knowledge of the sanitary care of the house.

Because consumption does not infect those who come in ordinary contact with another individual; or even where the association is intimate and prolonged as in a hospital, if that hospital is well regulated, or a home under similar conditions, it does not imply that consumption is not communicable through infection. The examples seen where one patient after the other develops this disease in a house in which the association of the people have been intimate and prolonged, and the care of the house has not been along modern sanitary lines, are too many to allow of other than the belief that in many of these houses saturated with the bacilli of tuberculosis. Not a few, indeed, very many patients become annually inoculated by this infection through a lack of proper information along what lines to proceed in the home to prevent it.

Third: The condition of the health of the person exposed to the infection.

It has been long understood that a person in enfeebled health is more prone to the development of tuberculosis than one who is strong and well.

Especially is this true after recovery from an exhausting and debilitating disease of any sort, but this special susceptibility does not apply alone to one recovering from a severe illness. A person run down from any cause, as prolonged and excessively hard labor, mental or physical, associated with loss of sleep, is more liable to contract the disease.

A bad cold, and all colds are bad enough, gives a peculiar susceptibility to the disease. More especially is this true of bronchitis which holds on and does not seem inclined to let loose.

It is true, no doubt, not only for the reason that the mucous membrane of the bronchial tubes being kept in a constant state of inflammation affords a better soil for the development and growth of the bacilli, but also for the reason that a severe cold lowers the vitality of the patient, giving the infection a better opportunity to fasten itself upon the organism.

Fourth: Feeble power of resistance as expressed in the construction of the individual, known as hereditary tendency.

Hereditary tendency occupies a less conspicuous place today than formerly. Some years ago every case was ascribed to this cause. Can we wonder at this when we come to reflect that the cause of phthisis was not understood, or at least very imperfectly? When case after case occurred in the same family and in the same house, one following the other in rapid or slow succession, it was

said the subsequent cases developed by reason of heredity. If you could not find a generation immediately preceding who had the disease, then it was believed that it was hereditary from ancestors farther removed. Now we know that many of these cases which occurred under these circumstances were the result of infection of the residence of the patient, and that no care was exercised in the disposal of the sputum, and that the house was not disinfected at any time.

Flint, in his work on Practice, relates the circumstance of all the children of a family, seven in number, having died of consumption within five years of one another, their ages ranging from 18 to 23. He relates it as showing a hereditary diathesis. But is it not likely that infection also played a part? He says: "The mother died of the disease shortly before the death of the first of the seven children who died. The father was a man of robust health." The father, being kept away from the house so much and in the open air away from the infected residence, may have accounted for the fact of his escaping the disease. Certainly, no more striking cases could be shown now of infection having played its rôle.

It is true many people are constructed with a phthisical tendency. They do not resist well the tubercular infection. Following a severe cold, or some infectious disease other than tubercular infection, consumption attacks the patient. Sometimes without apparent cause, the disease attacks the lungs in these so-called hereditary cases, but if the highest standard of health is maintained, if this patient is capable of caring for himself and his surroundings, following well-known laws of health, he will likely escape the disease, more especially if that person be carried over the age at which his ancestors have died of the disease. This is not an impractical thing to do in very many of the cases. That person may not do everything that others can do. He cannot neglect a cold with the same degree of impunity. He cannot follow occupations that others may do and escape. He cannot deprive himself of the greatest abundance of fresh air, of sunlight, of exercise. He cannot stand the same exposures, the same crowding in confined spaces with large bodies of people, or in some overcrowded institutions. His food must be generous and nutritious. He cannot stand a confining occupation with equal freedom from danger as others who have not the tubercular tendency.

Occupations which involve the breathing of dust in the manufacture of wares, or fabrics, produce enough cases of pulmonary tuberculosis in persons who do not have a tubercular tendency,

without the one with an hereditary predisposition attempting such an occupation.

Fifth: Slight acclimatization of the individual to the tubercular infection.

It is characteristic of all infection that an individual offers resistance to that infection in the ratio to which his system has acquired a tolerance of its presence. In the preparation of diphtheritic antitoxin from the horse, a mild dose of the diphtheritic toxin or infection is inoculated. Each day a larger and larger dose of the infection is given, and each day the system offers a greater and greater resistance to the toxin. Finally, a dose is given at the end with impunity that would have produced immediate death if given at the commencement of the inoculation. We see plenty of examples of this increased resistance in the human race. Let one of the people go into a highly malarial district. Others may have become largely immune to the malarial infection. Our new-comer is quickly infected.

In 1849, at the time such an exodus of our population was emigrating to California, large delegations took boats for the Isthmus of Panama. In attempting to transfer from the Atlantic to the Pacific Ocean, an enormous number of these fortune seekers were stricken and died with malarial infection. Natives were living there with impunity.

Transfer the Indians from their open-air mode of life, living in air which is pure and free in a large measure, at least, from the bacilli of tuberculosis, to confined and close quarters in civilized communities, and you see them developing phthisis. Of the Indians who have been brought to the Ohio Penitentiary, a large number have developed the disease. They are not acclimated to a tuberculously infected atmosphere. They receive a sudden dose of infection that their system is wholly unaccustomed to receive and incapable of withstanding.

No doubt, it is true of our own people, that they may gradually come into contact with the infection by degrees so that finally the system offers effectual resistance to very considerable numbers of the bacilli.

If it be true that leukocytes are resting at all times upon the mucous membrane of the throat for the purpose of giving battle to all intruding infective germs, and that upon gaining entrance to the blood the germs are here attacked by the leukocytes present in the blood at the time, and that these leukocytes greatly augment in number if the infection continues, and that they do this for the purpose and with the effect of destroying large

numbers of, if not totally annihilating, the infective germs which have gained entrance to the blood, then it is easy to understand why it is that a person may acquire an immunity to an infective disease; and why it is that so many persons may receive into their throats and lungs the bacilli tuberculosis and still escape the infection and development of consumption.

Persons between 20 and 35 years of age develop more cases of consumption than any other age. After that a greater immunity to the disease is manifested in the individual. Many believe this to be the result of an increased development of leucocytes capable of destroying the bacilli, that one individual has become more acclimatized to the disease. But how do we account for the smaller number of cases before the age of 20? They are not so much exposed to the disease. Before that age, as a rule, they are away from the danger of house infection much of the time. They are at school when that is in session, and in the open air playing when it is not. They are not much in the bed-chamber of the patient, the room where the chief infection rests. It is not a part of their duties as a rule to nurse the patient. If that house were properly cared for there would be no infection in it to infect child, adult or nurse.

Sixth: Occupation. Occupations which involve the breathing of dust or gritty substances, for instance dust from emery wheels, or fine particles coming from the manufacture of fabrics in cotton-mills. Also, persons whose occupation keeps them in confined quarters with a vitiated atmosphere are more liable to the disease. Why do so many farmers and their families have tuberculosis? They have plenty of air—pure air. Yes, but they know no rest from toil; exposure often and fatigue always. When a case of phthisis develops in a country home, there is no place in the world where they so much fear the evil influence of fresh air as there. They fear it will give the patient cold. They deprive him of one of the great essentials which he needs to battle with the disease. In shutting off the freest circulation of air, they have concentrated the infection and made more possible the development of the disease in other members of the family.

In whatever occupation our patient may be engaged, if he begins to fail in health and vitality and develops a bronchitis from which he does not free himself with a fair degree of readiness, and we are unable to rectify these troubles, it would seem a rational thing to temporarily interrupt that occupation by a vacation, if it be practicable. More especially is this true in those who have an hereditary tendency to pulmonary tuberculosis.

Seventh: Diet. I have already indicated that many physicians believe that tuberculosis is sometimes implanted in the human system by meat from tuberculous cattle and milk from similarly infected cows. Butter made from the milk of such cows is also regarded as one of the means of infecting a person with consumption.

Now, Koch disputes the sameness of bovine and human tuberculosis, claiming that bovine animals cannot be infected by the tubercle bacilli of the human subject. Conversely, he argues that the bovine cannot infect the human subject. It may be true that a person cannot be infected from bovine tuberculosis, but there are many opposing facts, and the vast majority of the medical profession of the world takes an opposing view. The pathology of bovine tuberculosis and human tuberculosis are the same. The bacilli found are the same, or very similar. The symptoms produced by the two diseases are the same.

Until this matter is more clearly understood, it would seem the part of wisdom not to relax in our efforts to exclude from the diet meat from tuberculous animals and milk and butter from tuberculous cows, even though the searching out of these animals involves large sums of money to accomplish such a purpose. On general principles alone, there is something repulsive in the eating of meat or the drinking of milk from animals which are infected with tuberculosis. If the judgment of some of the best minds is to be trusted, it will prevent very many cases of consumption.

Eighth: Climate. This is a thing that hardly concerns us in the discussion of the preventive treatment of pulmonary tuberculosis. However valuable climate may be as an accessory in the treatment of the disease once established, it is not ordinarily the case that we would recommend an individual to change his climate in order to prevent pulmonary tuberculosis. Yet, occasionally, we should do so. If the patient has an inherited tendency and one after the other of his family is dying of the disease, he had best make a radical change in his environment, if he is able to do so, and in making this change select a climate which is apparently adapted to his case. Climatology is too broad a subject to discuss the question here. This change need not be permanent. A prolonged vacation in some salubrious climate for a time, to invigorate the patient with new health, is sufficient. After that he may return.

Shall the physician inform his patient and the family of the nature of the fact that he has consumption?

It has been urged that by doing so he destroys the last vestige

of hope in the patient, and that this depression is such as to interfere with progress in the cure.

I think, however, that this is a mistaken notion. Consumption in its early stages is frequently curable, and indeed not a few recover whose cases have been in existence for a long time. By making known this fact to the patient, it is unlikely that any great depression will follow the announcement of his illness. He may have gained the impression that consumption always kills, which is very far from the truth. Besides, it may be necessary to inform him that he may take better care of his health in every way.

Then, if you believe in the infectious nature of the disease and in its communicability, you can do nothing less than inform him at once that he may protect those around him in the house and guard his sputum in public after a fashion that will not make them incur risks of infection. So, in either case, it is to the patient's best interest to be promptly informed of the nature of his disease.

SPECIAL HOSPITALS FOR THE CARE OF CONSUMPTION

I shall not discuss the question in this paper whether it would be an advantage to have special hospitals constructed for the treatment of tubercular patients so far as relates to their own recovery, except in one class of cases, but only in relation to the bearing such hospitals would have in preventing its spread among others. Whatever may be the advantages or disadvantages of such hospital treatment in general, many patients would have a better show for their lives in such hospitals. Take for instance the poor who are crowded together in tenement houses, with insufficient food, heat or bed-clothing, where in order to keep warm it is necessary to close doors and windows over prolonged periods, shutting out fresh air, and breathing over air already consumed. In this class of cases where they have not conveniences to care for themselves nor perhaps knowledge to protect others, surely the special hospital would prove a boon.

If the disease is a communicable one, what a wonderful good would be accomplished by reducing the *foci* of places of infection. A wonderful step would have been taken in the preventive treatment of tuberculosis.

THE ATTITUDE OF THE PUBLIC TOWARD PATIENTS SUFFERING FROM PULMONARY TUBERCULOSIS

In Ohio, each year, there die from tuberculosis in all its forms some 6,000 people. These are among all classes of people. As might well be expected in such a large number of persons suffer-

ing from the disease, there are many who are extremely careless in the disposal of the sputum. With the large majority of these persons this is the result of ignorance of the danger involved; with some perhaps it is simply indifference. In either case the public owe it to themselves to assist in the correction of the spitting evil.

Most physicians believe tuberculosis is transmitted by and through the dried sputum of consumptive patients. This sputum drying, getting into the air and breathed by persons may infect them.

Where a consumptive patient cares properly for his sputum, there is absolutely no danger in his association with his fellow-men. No physician of any prominence claims that now. Under these conditions the public and the patient may mingle with one another without danger. However no person should sleep with a consumptive patient. While there is no danger from contact with that patient, from his breath, yet in coughing in his sleep, he may perhaps project some of the sputum into your own mouth and with that sputum the bacilli of tuberculosis. The tuberculous patient is not a person to be dreaded and shunned on account of the fear that the disease is contagious; that one may contract the disease by simply standing in the presence of the patient. The disease is an infectious one, and this infection is probably carried into the system along the lines already discussed in this paper.

THE DANGER OF TUBERCULOUS PATIENTS SPITTING UPON THE SIDE-WALKS AND STREETS

At a meeting of the Canadian Society for the Prevention of Tuberculosis, Dr Knopf well observed that: "The great danger from infection lies in the indiscriminate deposit of sputum containing the bacilli, which, when dried and pulverized, may be inhaled by susceptible individuals, and thus cause the disease to be developed." This is the belief of the medical profession in general.

This should emphasize the necessity, then, of the stopping of tuberculous patients spitting upon the street and more especially upon the sidewalks. Either place is bad enough, but upon the sidewalk there is the additional danger of women having their dresses contaminated with the sputum, and taking this into their homes, the sputum dries, the bacilli are liberated, and if there chance to be any one in the house whose condition is favorable to the reception of these intruders, consumption may develop. The preventing of tuberculous patients spitting upon the sidewalks is not sufficient. That would accomplish a great deal it is true;

but what takes place when a tuberculous patient spits upon the street? The sputum dries, mingles with the dirt, which soon becomes dust. A gust of wind drives the dust into the air, it is breathed into the lungs. A susceptible individual develops the disease. If it were not for the destructive influence of light and air upon these germs in the street there would be doubtless wholesale infection. As it is, the infections acquired in this way are doubtless considerable.

I firmly believe that if persons afflicted with the disease more fully understood this proposition, there would be much less indiscriminate expectoration either at home or in public places.

The preventive treatment of tuberculosis is then the correction of these causes which lead up to the disease in so far as we are able to accomplish it.

An Ideal Sanatorium

WITH NOTES ON THE BLACK FOREST

BY JOHN H. LOWMAN, M. D., CLEVELAND

Deep in the Black Forest, remote from the noise, dirt and turmoil of the cities, a small town sits on a plateau formed at the junction of five little mountain valleys. It is a resort for those weary in body and mind. When the Huns overran Europe the monks of St. Blasien fled there for safety. For centuries a miraculous picture has hung in a little church on one of the hills to which pilgrimages are still made. Bath, hydropathic, and gymnastic institutions, and comfortable hotels supplement the climate and make Todtnoos a most desirable health-resort. To reach this remote spot one goes from Bâle to Schropfheim, and then to Wehr where the mail-coach is waiting. The post follows a stream through the Wehrthal, which is a narrow, rocky, heavily-wooded valley through which the Wehr noisily foams and rushes. The rocks on either side almost touch each other at times, and are tunneled for the road, and the mountain sides are so steep that one wonders how the many trees find a hold for their roots. Cottages and hamlets dot the way throughout the devious windings of the valley, and the changing views make a series of pictures all the way to the opening in the hills at Todtnoos. The carriage ride, which is 10 miles, consumes three hours' time in going, and two hours' time in returning.

Situated 120 feet above the town, and 2,824 feet above the sea-level, on an artificial plateau cut in the side of the mountain, stands the sanatorium Wehrawald. It is new, and though I had

been in the Black Forest I would have missed it had not Dr Dettweiler mentioned it with praise, and said that it was the latest and best example of the newer sanatoria. From the valley its long and high facade with its graceful balconies, the high towers and steep roof, make an imposing sight. The mountain rising behind it at the north and west, and a grove at the east protect it from the strong winds. The front faces the south and overlooks the opening in the hills to the distant mountains and receives the sunshine the greater part of the day. The main building is 200 feet long and has five stories and is for the reception of patients. From either end two high one-story wings extend towards the north. The one at the east is devoted to the administration, dining-hall, kitchen, and service-rooms; the one at the west is used for the medical and surgical departments, baths, and hydrotherapy. Along the front is a well-protected, wide veranda, 267 feet long, that curves gently toward the south and terminates on the east with the physician's residence, and on the west with a pavillion which further protects it from the winds. Under the veranda is a walk for use in inclement weather, and below, some 50 feet down the hill, are two air-galleries that accommodate 20 patients each, and in the woods there are other galleries and shelters that provide place for 25.

The public enter from the east, but the main entrance for patients is from the terrace on the south, where there are benches and flower-beds, walks and resting-places. On entering, one finds himself in a large vestibule with a glass door on the opposite side that opens into a corridor that runs the length of the building. Two sets of doors in the branch corridor that leads to the dining-room cut off the odors that might otherwise permeate the rooms of the patients. Immediately opposite the vestibule is the stair-case and elevator, and to the right is the service stairway that is connected with a covered passage-way leading to the kitchen through which there is direct service to the patients' rooms and is most convenient therefore in carrying meals or whatever may be needed for those ill in bed, and also for the general purpose of the service of the establishment. Turning to the right from the vestibule, one comes upon a series of rooms facing the terrace; first is the drawing-room, then a library and a large reading-room; to the left of the entrance are two large cloak-rooms with separate open spaces for each guest; there are three hooks for wraps, a low seat under which is a cement bottom for shoes; lavatories are at suitable intervals and are abundantly supplied with the convenient small individual

towels. Passing on to the left in the branch corridor of the west wing one comes to the bath-rooms, operating-room, physicians' consultation-room, and dispensary, adjoining which is a small clinical laboratory with all the conveniences for sputum and other analyses essential to diagnosis and treatment; there is a full equipment for laryngeal work, much of which is done here and in many other institutions. The bath, toilet-rooms and lavatories are finished in white tile; the bath-tubs are porcelain, and the plumbing is good, open, and complete. The large bath-room for hydrotherapy is also in white tile and fitted with complete arrangements for shower-, rain- and douche-baths. The upper stories are used exclusively for private rooms. A corridor corresponding to the one on the main floor runs from east to west, and from it open the rooms, all of which face the south, save two on each floor that are cut off from the ends of the corridor and consequently face east and west; the rooms are of good size and have one large double French window above which is a transom. To prevent noise and draughts the doors are double, and in the space between them shoes can be placed and clothes hung without being seen from the corridor; above the doors are transoms so that ventilation is complete. Many rooms have a balcony onto which a bed can be wheeled through the windows. There are outside blinds for occasional use, and convenient devices enable one to adjust them and the transoms very easily. The water-supply is from the mountain and is abundant and good. The plumbing and drains have received careful attention; the sputum is first carefully disinfected in the bottles and then thrown into a retort where it is further sterilized; it then goes with the sewerage into clarifying retorts where the whole is treated three times, and when the waste finally flows off into the stream in the valley, it is limpid and free from noxious substances. In the basement there are the furnaces, disinfecting apparatus and various cellars and store-rooms. In the valley below, 500 feet away, is the power-house that supplies the light.

In the finishing of the interior of the institution the idea of asepsis and cleanliness have been uppermost. There are no dark rooms or places; all corridors and rooms are spacious; there are no corners or sharp angles; everything is curved or rounded and accessible so that all can be easily cleaned; the colors are light so that dust is immediately detected; white enamel paint is generally used. The walls are covered with salubra paper, which is a new material made in Bâle, that can be thoroughly washed and cleaned; it comes in simple but attractive designs and is much

used in the later institutions. The woodwork is flat, smooth, and finished even with the walls. Every effort has been made to avoid cracks, seams or projections. The walls of the rooms are decorated in shades of rose, blue and lilac, the corridor in blue, and the dining-room in lilac, the library in green, while all the ceilings are in light oils and frescoed tastefully and simply with garlands of flowers. The floors are of cement (Tarazzo) and covered with linoleum which in Europe comes in agreeable designs, and in warm browns and reds that closely simulate carpets.

The dining-hall is a spacious room 46 feet by 30 feet by 16 feet high. Large windows fill up the side that looks out on the forest, and the opposite wall is covered with mirrors. The covered ceiling is tastefully decorated, and the walls are covered with salubra. The patients sit at long tables, and the physician eats with them. Adjoining the dining-room are the preparation and warming-rooms, and beyond them is a high vaulted kitchen that is finished in white tiles. There is every modern improvement for cooking that is found in a modern hotel. Beyond is the servants' dining-room.

A unique feature of this institution is the special attention paid to details that are ordinarily not considered. The dishes and table furnishings are made from original designs; the knives and spoons are stamped out of one piece of metal and have no ridges or joints; the forks are three-tined that they may the more easily be cleaned. The cups, tumblers and pitchers have rounded interiors and smooth even exteriors; the sugar, honey and preserve dishes, and bread-trays, are made without interior angles. Everything that is used on the table has been designed with reference to asepsis. The kitchen utensils have been thought out in the same way; the service-dishes, such as those for bread, honey or butter, that go to private rooms, are small, so that there will be less waste. The napkins are covered and kept in individual racks; the room, dishes, bowls, ewers, etc., are also especially designed in curves, and there is the special small bowl so frequent in England and in private residences here to receive the mouth-wash. The electric chandeliers are made on curved lines and can be easily cleaned. The wall-brackets are ingenious and are so designed that they rest firmly on the wall when hung or stand equally as firmly on a table, and make thus a good drop light. The furniture is smooth and well-finished, no carving, panels or beading are evident; every piece is plain and substantial, and many are heavy, but their general effect is pleasing; even the

corners and angles of the drawers are rounded or filled out with half-inch triangular cleats. The upholstering is with a firm yellow fabric on portable frames that are dropped in the seat of the piece or let into the back after the methods of the hair-cloth furniture of a generation ago. Thus the upholstered parts can be conveniently put into the sterilizer. Superheated steam (104-110 C.) is the disinfecting agent.

Each room contains a bed, the head and foot of which are well screened, three chairs, a sofa of peculiar construction, thereby facilitating cleaning and disinfecting, stand, table, writing-desk, washstand, commode and wardrobe. There are no coverings to the tables, and no curtains to the windows, and a skilful use of stained glass, and the treatment of the French windows make their absence in no way conspicuous. There are no pictures or ornaments to collect dust. The ventilation is by natural methods except in the dining-hall where there is a fan above the ceiling that forcibly withdraws the air. The windows are always open unless the weather is too cold, and then the transoms are opened, and as all the rooms are on the south side of the building and the wings have only one story, there is a free current of air about the four upper stories. Patients with fever, or in bed for other cause, have almost the same advantages as if in the air-galleries. The corridors are so wide, light and airy, the rooms so agreeable in outline and color, and the view from the wide windows so pleasing, that one could rest the necessary time indoors, with comfort and satisfaction. The air-treatment is conducted in the two main verandas attached to the building. There the patients are more under control. In the private balconies and in the galleries in the woods they are more remote from the physician and more apt to commit some indiscretion; as the patient grows stronger and proves himself judicious he is permitted to use the woods and take longer walks. However, he cannot go far away, for at 8, 10, 12.30, 4, and 6.30 he must be in the dining-room. Notes and histories are carefully kept, and the records of patients are on file for constant reference. There are accommodations for 100 patients; among these are many advanced cases who find in this medium mountain altitude aid and comfort. The place is heated by steam, and there is a coil in each room; the coils have the same general design as ordinarily seen and will doubtless prove the same dust-collector that we find them here. It is unfortunate that the ingenuity displayed in so many places has not solved the vexatious question of dusty heat-radiators.

Wehrawald has not at all an institutional air. The entrances

are attractive, and the corridor and reception-room are hospitable. The general appearance is that of a delightful summer hotel where a genial host has arranged everything for the pleasure and comfort of his guests. The building might serve as a model for hospitals, hotels, or even residences. For notwithstanding the fact that the idea in all its equipment has been asepsis, there is nothing especially obtrusive as a scientific arrangement. The thought that comes to the transient visitor is that everything must subserve the interest, comfort and pleasure of the patient.

Hydrotherapy is not made an especial feature but is used with the stronger patients. The bath-room is equipped with apparatus for the various baths, and they are given under the supervision of the physician. The rates are \$2.75 to \$3.75 a person a day, including room, board, treatment and service. Private sanatoria generally contain more advanced cases than folk-sanatoria. It is not unusual for three-fourths of the cases to come from other and mostly "open" institutions, and this is especially true of certain institutions that strike the reading public as new, unusual and apparently advantageous. Two men are especially responsible for the success of this sanatorium. One of them is Turban, the directing physician of the sanatorium at Davos, and the other, Hüglin, an architect in Freiburg in Baden. The construction of so complete a building with the necessary transportation of material along the mountain roads is very expensive. I was told at Todtmoos that the cost was \$350,000. It is owned by a stock company, and is of course a business enterprise; but with a broad, intelligent enterprise will be found the best service. The public lean toward the institutions that are owned and controled by the directing physician because they are nearer the source of the power from which comes their help, and to which go their complaints. When one visits the palatial sanatoria of Wehrawald or Schatzalp and then goes to a primitive chalet in which only 20 patients are treated, as at Leysin, and still finds the patients doing well his confidence in the air and rest-cure of Brehmer increases. The hygienic-dietetic treatment conducted by a conscientious, intelligent and experienced man is the essential need. Marble halls are very delightful aids, but they are not essential. They diminish the tediousness of the days as the months grow long. The parks, groves, and walks on the hills should have the greatest attraction so that the patient will find his chief pleasure in the open air.

The Black Forest has long been a favorite place for sanatoria. Its natural beauties, isolation, deep woods, elevation and

climate all contribute their advantages. St. Blasien sanatorium stands above the town of that name. It is on the side of the mountain, surrounded by pines, and is a large, four-story building, finely equipped. The rest-galleries are in the forest 200 feet away. Its nearness to the town affords some attractions, but these are discouraged by the institution. It is a private sanatorium and has long enjoyed a good reputation. A quarter of a mile beyond the town the Sisters have a small sanatorium where the rates are low. This is also a general hospital, but is constructed to care for a limited number of tubercular patients, and is pleasantly situated. I met two Americans there who had been in Falkenstein and were satisfied with their simple quarters. The reputation of St. Blasien has attracted those interested in private institutions, so that a third establishment is about to be erected on land higher up the mountain that has already been purchased. St. Blasien is approached from Bâle by way of Abdruck or from Fribourg by means of the mail-coach which makes the drive up the mountain in two or three hours.

There are three sanatoria in the northern part of the Black Forest, in the Nordrach valley. Near Zell-Biberach Hettinger has long treated tubercular cases in small houses. In the past two years he has built a large building of stone and brick to accommodate his patients. He has his verandas on the southern exposure of the building, but the air-galleries are up steep inclines too far away to be of the most use. His building, though modern, has too much of the institutional air; the arrangements of the day-rooms and the decorations are too severe, and it is not cosy and attractive enough to make a patient contented. Many, perhaps, are not influenced by this, as his results are good. His parks are still new, and when more developed will add much to the general attractiveness of the place, which has many natural advantages.

The sanatorium of the Baden State Railway employees is near Hettinger's, and in Nordrach village. For this the houses of the village are used, though lately new buildings have been erected with a more specific purpose. This institution proves what can be done without a large outlay of money. The patients are grouped in numbers of 20 and 30 and housed in small buildings; each home has its dining-room and necessary conveniences, and a nurse is in charge. A fine, large air-gallery in Hettinger's park provides a place for the air and rest-cure. The patients wander up and down the road, in the neighboring groves and fields, and have generally the appearance of good health. As

a rule, they are first-stage cases, and are sent early by the Railway insurance societies and remain two or three months, in which time many of them make sufficient progress to return to their work. The effect of this institution on the health and spirit of the employees is good; they know that there is a place for them to go should they contract tuberculosis. They soon lose the cough, expectoration and fever in Nordrach and gain rapidly in weight, color and general well-being. Many practical lessons can be drawn from this simple institution where the patients are not so closely watched, where the cost is reduced to a minimum, and the results are good.

Further up the valley is the Nordrach colony, a sanatorium long known and frequented by the English. It is called a colony because many small houses are used, and the establishment is on the cottage plan. Buildings that belonged to factories have been turned into dormitories holding four, six, and ten patients. A new, specially constructed house has been built more recently higher up the hill for the accommodation of 20 patients. Cottage sanatoria are very expensive to administer; coal, light, service, and nurses, all increase the expense, and when the plan of housing patients by fours and sixes prevails in small cottages the directors have usually come to the necessity of having places accommodating 25 patients. In Liberty, near New York, the arrangement began with the cottage system, but it is found that the infirmary, the place for feverish patients which is connected with the main building by a corridor, is administered at two-thirds the expense of the cottages. The directorate of Nordrach started with the idea of receiving but few patients who should be close to the physician; the institution has grown, and now a second physician is necessary, and the two exchange patients every two weeks; it is thought that subtle changes in the patient are by this means more quickly detected. There are no air-galleries at Nordrach, so the patients take their rest in their rooms. The apartments are large, comfortable, with no attempt at decoration, and the largest cottage resembles a simple summer hotel. The dining-room is a pleasant pavilion below the cottages; at one end of it is a platform where simple entertainments are sometimes given. There is probably a very close association between physician and patient that must have its advantages. The offices and laboratories are near the dining pavilion. It strikes the transient visitor that these main buildings are too far from the cottages, and that the patients, especially in winter, must walk too far and climb

too steep a hill, but experience apparently proves this is not so. When I was there the day was lowering, and a cold rain was falling, but the patients were walking about the hill-paths with wraps and umbrellas quite unconcernedly and with much satisfaction. Though Nordrach is a closed institution the patients have more the sense of freedom and enjoy walking about the little colony, sitting under the trees and visiting their friends during the short recreation hours. The general effect is more like that of a family life in a simple and agreeable mountain hamlet. The surrounding hills cut off the winds and protect the place from sudden changes. The rooms are comfortably furnished, and some patients have hung pictures, souvenirs and photographs about to give a home-like air. A severe aseptic oversight in the smallest particular is not considered essential if in the main the rules are observed. Many rooms have an individual shower-bath; an arrangement rather generally criticized because most physicians think that the bath should be administered under the immediate supervision of the nurse or doctor, though an exception might be made with strong patients. In the rooms of the newer buildings the heating and the water facilities are more modern. Each room has two wash-bowls, one of which is intended to receive the mouth washings. A device that must give great comfort to a delicate patient is a tray containing an electric thermostat by means of which it is warmed so that each patient, when eating in his own room with the windows open, has a warm plate and consequently warm food. A patient should not use his own energy too much to keep off the refrigerating influence of the cold, but should be assisted by coverings and artificial heat. There are many comforts, and some freedom, combined with kindly restraint, which make many people love Nordrach, and bring them back when a return of their trouble demands it. There is a cottage a quarter of a mile away, for friends who accompany patients, and for the sanatorium guests who are bacillus-free and well on toward their recovery. One reaches this pleasant resort from Strassburg by way of Offenburg and Gangenback, at which last named station one takes a carriage by which, after a pleasant ride of four hours, through dense forest, he reaches his destination. The rates at Nordrach colony are \$15 a week, including everything. The directing physician has a reputation of severity among the traveling public. One hears stories of rooms having but three sides and heartless exposure to cold, all of which are pure figments of the imagination.

Farther north near Kandar is Friedrichheim, an institution built by a Baden association, and assisted by the central committee for the reception of the poor. It is new and modern in every particular and has been in operation two years. It is well situated in the forest and protected from winds and sudden changes. At first two-thirds of the patients were advanced cases, and it has been difficult for the management to reduce the proportion. Although intended as a curing station and not an asylum, the statistics are not as favorable as elsewhere. Only 5%, for example, leave the institution bacillus-free, as against 60 and 70% elsewhere. The few first-stage cases make the same improvement as in institutions where the cases are more carefully selected. The directing physician has been active in writing and speaking of the matter, and has put himself in relation with physicians to bring about a change, with the result of reducing slightly each year the number of third-stage patients. Here the control of the patient is very thorough, strict asepsis has been observed in the construction of the building, in its equipment and in the management of patients.

A Plea for the Early Operative Treatment of Quinsy (Peritonsillar Abscess)

BY J. PARK WEST, M. D., BELLAIRE

There are very few diseases in which the practitioner can afford his patient greater relief or shorten the period of his suffering more, than by an early successful incision of a peritonsillar abscess. It is not too much to say that a careful physician, especially after a little experience in this line, will be able to thus afford relief to 50% of his quinsy patients. It must be acknowledged by all who have looked into this subject carefully that we have no medicinal treatment for this painful affection. Aconite will not reduce the inflammation when it has once begun, and very seldom will it abort it. The writer has had patients, who suffer with recurrent attacks, carry with them aconitin (others the tincture of aconite) so that they might begin treatment at the first symptom of the trouble, and in only a very few instances has it been successful. Medicinal agents do very little for the acute suffering. Solutions of cocain may give slight temporary relief; often the patient wearies of the application and prefers to endure the pain. The coal-tar group is ineffective. Opiates are dangerous owing to the likelihood of their causing edema of the

glottis. Gargles are painful, and hot applications are of doubtful utility. Of all the remedies recommended it can be safely said that no one, nor combination, will shorten or alleviate an attack of quinsy.

The advice given in some text-books as to the operative treatment of peritonsillar abscess is wrong, especially in two particulars. The first is to make the incision through the tonsil. It is rare indeed that the abscess is in, or discharges through, the tonsil. The second is to make the incision where the abscess can be seen pointing. This prolongs the sufferings and almost always the abscess will open before it can be seen to be pointing. Where does this abscess point? In the tonsil (rarely), or any place in the peritonsillar tissue. A short time since, a man had his abscess open while on his way to the writer's office. An examination showed the abscess discharging through an opening one-eighth of an inch in the extreme lower edge of the anterior pillar. The location at which it most frequently points is above and to the inner side of the tonsil, but the place an incision should be made is where fluctuation is felt, and the time to make it is as soon as fluctuation can be felt. It takes considerable patience and some practice to locate this point early. Opening the mouth is painful, but a few trials will give sufficient room for the physician to work his finger far enough back to make a careful exploration. Fortunately these patients are usually adults and are willing to undergo a good deal for the promise of relief. This examination should be made as soon as the disease is suspected and repeated at each visit until the thing sought is found. Early in the disease all the tissues in, above and around the tonsil are hard and dense, but ere long somewhere in this dense tissue will be felt a softer spot that shows where nature is making an effort to discharge the pus, and there we can aid nature to the great relief of the patient. This spot should be carefully located with the finger so that it can be fixed later with the eye. Under a reflected light, the tongue held down with a depressor, a vertical incision should be made. Very rarely will this procedure fail to discharge the pus and put an end to the trouble.

It is the opinion of the writer that this early operative treatment is not only curative of the attack, but equally important, is to a large extent a preventive of future attacks. Not a few of the writer's patients thus treated have had no further attacks; others have had them less frequently and less severely. (This refers to patients who have been having from one to three attacks annually for years.)

The application of cocain in spray or solution mitigates the pain of the incision little if any, and it will be found just as satisfactory to both patient and physician to do the work without it. The danger of opening one of the blood-vessels is small, and probably not as great as the danger from rupture of the abscess during sleep causing suffocation. A sharp-pointed curved bistoury that is wrapped to within one-half inch of its point will not be plunged too deep. A vertical incision directed slightly toward the tonsil is safe. An anomalous distribution of the large blood-vessels would no doubt be felt by a careful digital examination.

Exhibition of Specimens

BY WALTER LINCOLN, M. D., CLEVELAND

The following specimens were exhibited before the Clinical and Pathological Section of the Academy of Medicine of Cleveland, October 3, 1902:

Exhibit No. 1 was a large fibroma of the uterus the size of a man's head, with the uterine cavity filled with carcinomatous masses. The gross specimen was exhibited and microscopic preparations of the carcinomatous masses were demonstrated.

The history of this specimen is as follows:

Miss S. 61 years of age, was operated upon by Dr M. Rosenwasser, September 26, 1902. The menopause took place at the age of 51 years. There was no return of the bleeding until four months before this operation. It is known that the fibroma has existed for over 15 years. The carcinoma is of course of very recent origin. No causal relation between the carcinoma and the fibroma can be proven. The coexistence of carcinoma and fibroma is comparatively rare, though numerous instances are on record. The carcinoma has developed from a cylindrical epithelium, but whether from the cervical or corporeal uterine epithelium is not certain. From the clinical examination of the case it is probable that it is derived from the corporeal epithelium.

Exhibit No. 2 was an endothelioma of the ovary, the history of which is as follows:

A dilatation and curettement were performed by Dr Rosenwasser on February 2, 1902, followed later on March 3, 1902, by removal of a right ovarian tumor.

The indications for an operation were metorrhagia and the presence of the tumor. At the curettement a large amount of debris was removed, and a microscopic examination of this showed pronounced glandular hypertrophy and hyperplasia of such a grade that it is justifiable to term the process "a diffuse

benignant adenomatous change." The tumor of the ovary when *in situ* and on superficial examination after its removal was thought to be a papillomatous cyst with a broken-down interior. It was of fairly firm consistence until it was accidentally ruptured during its removal. Immediately a mass of poorly formed very friable tissue extruded through the rent and a very severe and sudden hemorrhage occurred. Microscopic examination of the tumor showed the external wall to consist of fibrous tissue. The interior of the tumor was made up of small cells whose nuclei almost filled up the cell body. These cells are in places arranged in such a way as to suggest the attempt at formation of tubules or vessels. The cells appeared to be packed together without any intervening tissue, but were not arranged in alveoli as in carcinoma. Numerous small vessels were found directly among the cells and the walls of these vessels were formed by the cells themselves. No return of the growth can be detected by careful examination and the patient is at present in good physical condition.

Cleanliness in the Care of Child-Birth

BY E. B. SHANLEY, M. D., NEW PHILADELPHIA

Your President in honoring me with an invitation to present a paper to this Society requested that I should not make it too technical. There was no occasion for alarm on the part of the President, but I am glad that the request was made because it gives me an excuse to present to you a common, every-day effort on a subject that is of vital interest to us all. A paper on this subject may, at first thought, seem superfluous, but I shall try to show you that such is not the case. You will be surprised, those of you who have not looked up the statistics, that during the decade ending in 1900 there was little or no diminution in the cases of puerperal fever in private practice throughout the country. At the close of the present decade I hope and believe that puerperal fever will be almost a thing of the past in private practice as it is now in hospital practice. The older men of the profession are learning by reading and better experience that it pays to be cleanly; and the students of today are being thoroughly drilled in asepsis and antisepsis. Fifty years ago puerperal fever was much more prevalent in lying-in hospitals than it was in private practice. No better care was taken of the patient in the hospital of that day, so far as cleanliness of the physicians was concerned, than there was of the patient in her own home. I think that the accoucheur of that day carried a collection of pathogenic organisms around with

him all the time under his nails and in the meshes of his clothing, and it was due to luck or accident and not to scientific care that all parturient women did not become infected. The mortality from puerperal sepsis in lying-in hospitals at the period I mention half a century ago was 6% to 20% all the time, and during epidemics often 50% and 75%. The medical lore of that period deals extensively with attempts to cure the disease rather than with attempts to prevent it. The following few statistics of several years ago will show you the benefits of cleanliness as a preventive of puerperal sepsis. I am sorry that I have not at hand some later statistics, but I did not think to send for them until too late for this paper. However it is reasonable to suppose that they are just as good or better than the following. In a report of 12,052 labors in Vienna, covering the period from 1892 to 1895, there was a septic mortality of one-eighth of one percent. In 1895 the New York Maternity Hospital reported 1,321 consecutive labors with no deaths from sepsis. In the same year the New York Post-graduate Hospital reports 850 labors and the New York Polyclinic 750 with no cases of sepsis. In six years' time and over 2,000 confinements at the University Maternity Hospital, Philadelphia, there was only one case of sepsis, and that was the result of a Cesarean section. From January, 1890, to October, 1896, 10,234 cases of child-birth were reported by the New York Midwifery Dispensary with a septic mortality of 14%. All of these were cases confined in their own homes, and these homes were in the tenement districts of New York where the sanitary conditions were the worst that could be found. This is, of course, a much larger percentage than would be found to exist throughout the country, because the sanitary conditions of the smaller towns and country districts are much better than those to be met with in crowded tenements of large cities.

Puerperal fever is distinctly a preventable disease but, sad to relate, there has not been that diminution of the death-rate in private practice that should be expected from the teachings on the subject in recent years.

According to Grandin and Jarman, a very excellent work, the microorganisms that cause this disease are always exogenous and never endogenous, hence proper precautions to keep the patient from these germs will insure her against the dread disease. Most of the plans that are submitted to you on this subject in text-books and journalistic articles call for the services of a trained nurse and accommodations found only in

hospitals. Unfortunately most of our cases are handled without the assistance of a trained nurse, hence I shall give you my own method of caring for a case of child-birth in which a trained nurse plays no part.

In the first place when a physician is engaged to confine a woman in an expected case, she should be given a few general instructions about the care of herself from that time until her labor begins. She should be instructed to move the bowels with a saline aperient at the first intimation of labor pains, or if they have been recently moved, she should be given an enema of warm water with a little glycerin. Some obstetricians advise both a saline and enema, but I think one is enough, and there is danger of ruffling the patient's temper by over zealous attention to her bowels. She should be given a bath, or rather she should take one herself at the outset of labor; she should be clothed in a clean night-gown and put in a bed recently supplied with clean linen. Some men advocate a bichlorid bath following the soap and water bath, and lastly a bath with sterilized water, but I do not think that all this is necessary. A good soap and water bath with special care in bathing anal, vulvar and inner thigh regions will in all ordinary cases protect the patient against herself. I do not believe that thorough asepsis is necessary in these cases, and as it is not obtainable without the use of heat it would not be practicable in the preparation of a patient.

On the physician's arrival, if the foregoing preparations have not been made, he should attend to them at once, and then have an attendant prepare two bowls of hot water in one of which he washes his hands and arms, using a good soap and clean hard brush for several minutes. A 2% solution of creolin should be prepared in the other bowl, and after thoroughly cleaning his finger-nails the hands should be soaked in this solution, the vulva washed with a little absorbent cotton dipped in the same solution, and then you are ready for a digital examination. From then on to the completion of labor as few digital examinations should be made as is possible to keep you posted on the progress of labor, and previous to each examination the examining hand should be immersed in the creolin solution and kept absolutely free from sheets, legs and everything until you reach the patient's vulva. Bichlorid may be added to the creolin at the discretion of the physician, but always have the creolin because in addition to its value as an antiseptic it lubricates the hands and makes your digital examinations easier. A Morrison or other good rubber obstetric pad should be placed under the hips of the

patient, and a pad of sterile absorbent cotton placed on the vulva to take care of whatever discharges there may be. In my own practice I always wear a clean linen operating-gown and think it is a good routine practice. Your patient will perhaps insinuate that it is a night-gown and ask if you are sleepy, but she will appreciate your efforts to remove her as far as possible from the dangers of septic infection, and in addition to this the gown prevents the clothing from being soiled by blood from the patient. There has been and still is a wide difference of opinion about the advisability of preliminary vaginal douches. Some authorities contend that such a procedure increases the danger of perineal laceration on account of washing out the normal mucous discharges. The astringent properties of most antiseptics would very evidently tend to lessen the mucous discharge, and with this fact in view I would advise, when a vaginal douche is used, that it be of a 2% solution of creolin thus combining the lubricant with an antiseptic. Personally, I do not like the preliminary vaginal douche except in cases where gonorrhea is known or supposed to exist, or where there is a marked leukorrhea. I am inclined to the belief that unless overwhelmed by numbers the normal vaginal secretion will prevent the growth of pathogenic organisms and destroy them when they gain admittance from the outer world.

It is due to this fact and this alone that previous to the teaching of Lister all parturient women were not infected. I believe that a man's hand might be comparatively dirty and unless he came in contact with a broken surface in his vaginal examination there would be no bad results. A careless man might have a hundred cases of child-birth with good results and think that he had data for an argument that there was nothing in cleanliness and antisepsis. His one hundred and first case might have a little break in the vaginal mucous membrane or he might have to introduce his hand into the uterus in order to remove a refractory placenta; the patient develops puerperal sepsis, and the obstetrician becomes a criminal. The careful man would have had no bad results in this same case. I do not advise promiscuous intrauterine manipulation, but it is often necessary, and with proper care it can be done *ad libitum*. In the past four years I have had my hand or fingers in at least 25 wombs in attending labor cases, without the slightest sign of sepsis; and I would like to go through life without being haunted by any specters of that kind. It is true that with the utmost care sepsis will at times occur. This may be caused by the formation of

thrombi in the uterine sinuses a portion of one of which may float away in the blood current, and lodging elsewhere cause very serious disturbances. This danger can be very materially lessened by the use of ergot, a dram of which should be given immediately after the uterus is emptied, and I believe it is a good routine practice to give half-dram doses every four hours for several days after labor in order to assist uterine involution. It is not good practice to remove the placenta immediately after the completion of the second stage of labor. The child should be wrapped in flannel or any warm cloth, and both mother and child left alone for 10 minutes. In doing this the child gets pumped full of blood and starts out favorably on life's journey, while the uterus of the mother is given a chance to react from its recent severe trials and to commence contractions that will in many cases terminate the third stage of labor spontaneously. If the contractions are not sufficient to expel the placenta in 15 to 20 minutes, the obstetrician should resort to Crede's method of expulsion. The scissors used in cutting the umbilical cord should first be soaked in some antiseptic solution or boiled. I generally place mine in the creolin solution that is prepared for the hands and leave them there until they are needed. The stump of the cord should be dusted with any good antiseptic powder and wrapped in sterile gauze. After the removal of the placenta, the mother should be wiped dry with a clean towel, the vulva again washed with creolin solution, and a sterile gauze or cotton pad should be fitted and held in place by a T bandage. During the first two days this pad should be changed every two or three hours so that the patient may be perfectly clean and comfortable.

Where a forceps delivery is necessary exceeding care should be used in sterilizing the forceps. Many physicians have water heated in a greasy old dishpan, dip the blades of the forceps in the water hurriedly, anoint them with hair-oil, lard or inhabited vaselin, put one blade on the bed while the other is being inserted, and think they are aseptic. Dipping the forceps in hot water cleans such a man's conscience but it does not clean the forceps. They should be wrapped in whatever towels may be needed and boiled for 15 minutes, and one should be kept in a sterilized towel while the other is being inserted. If they need lubricating dip them in your creolin solution. After delivery by forceps, if there is any suspicion that you have not been thoroughly clean, an intrauterine injection of a 2% solution of creolin will clear up the field for you, and you can leave your patient with the satisfaction of a duty well performed. A fountain syringe is preferable to any other in intrauterine injections and should be used with slight elevation. It is difficult to find a stopping place in a paper of this kind because one thought brings up another, and a man might go on almost indefinitely; but it is not the purpose of this paper to deal with the complications of labor, or digress in any manner, so with a few words about the knowledge or rather

lack of knowledge of the public on the cause of puerperal sepsis, I will close a subject that has already taken up too much time. The general public is profoundly ignorant as to the cause of puerperal infection, and it is the policy of men who are careless to leave them so. On the completion of labor, such men tell their patient that she will be all right now if she does not catch cold. The high temperature and chills of puerperal fever stimulate a bad cold, and the patient and her friends believe that this is the whole trouble. Physicians should educate their patients to the real cause of the trouble, and when the majority of women gain such knowledge they will expect more of physicians; and the man who does not live up to their expectations must necessarily fall by the wayside.

Preliminary Note on a Method of Resuscitation of Apparently Recently Dead Animals

BY GEORGE W. CRILE, M. D., CLEVELAND

By the combined use of intravenous infusions of adrenalin, artificial respiration and rhythmic pressure upon the thorax over the heart, animals dead as long as 15 minutes were restored to life. Animals decapitated were made to live $10\frac{1}{2}$ hours.

Department of Therapeutics

CONDUCTED BY J. B. MCGEE, M. D.

Uremia: Dr J. M. Anders in the *Therapeutic Gazette* for November asks the question "Is the administration of opium or morphin allowable in chronic nephritis? or does the use of these agents aggravate the uremic manifestations in this disease?" He believes that the balance of testimony of a trustworthy character is against its employment. It impedes the channels of elimination, as skin and bowels, as a rule, and also interferes oftentimes with the establishment of free diuresis. Again, the somnolence produced by morphin is readily confused with that due to uremia itself. Extended experience, however, indicates that it is less harmful in its effects in acute nephritis than in chronic, more particularly in the cirrhotic form of the disease. Indeed it is a popular form of treatment in the uremic convulsions of acute nephritis. In chronic nephritis it should be employed however only when alarming symptoms are present, after other measures including jaborandi and venesection have failed, or are contraindicated by great enfeeblement of the circulation.

Asphyxia: An editorial in *Merck's Archives* for November calls attention to the administration of hydrogen peroxid (*aqua hydrogenii dioxidi* U. S. P.) per rectum and per os, as a remedy in coal-gas asphyxia. It is given per rectum in full strength;

per os it is diluted with an equal volume of water. A piece of ice inserted into the rectum is a great adjuvant as it has quite a remarkable effect in restoring consciousness. The dose per rectum is about two ounces, and one ounce by the mouth, and it may be repeated frequently. The usefulness of the treatment depends upon the absorption of oxygen from the hydrogen peroxid into the blood-current.

Urotropin or Formin: Dr W. J. Robinson, in *Merck's Archives* for October, asserts that urotropin or formin is a most remarkable and certain urinary bactericide, and there are few of the newer drugs about which such uniformity of opinion exists. He believes that no case of subacute or chronic cystitis with a mucopurulent sediment in the urine is treated properly if hexamethylene-tetramin (urotropin or formin) does not enter the treatment. Not only does the drug clear up the urine in a surprisingly short time, but it prevents the upward extension of the infection into the ureters and pelves of the kidneys. He prescribes the formin either plain, five grains in a glass of water three or four times a day, or dissolved in a cupful of fresh infusion of flaxseed believing this indispensable in great vesical irritability. He also advises its use in gonorrhea, not as an antigonorrheal but as being valuable on account of its marked properties as a urinary sterilizer, so preventing extension of the gonorrheal process into the posterior urethra, prostate and bladder.

Albargin: Dr H. G. Klotz in the *Medical News* asserts that albargin one of the new silver derivatives is one of the most efficient agents in the treatment of gonorrhea. He has safely used it in from one-half to two and even five percent solutions of the drug without injury to the urethra. Eleven out of 15 cases were discharged cured within eight days. In the remaining four results were not so satisfactory, other methods of treatment being required to effect a cure. From 26 cases so treated by him, however, he believes that albargin comes very near to Neisser's ideal of an antigonorrheal gonococcide remedy, and deserves a trial from those particularly interested in the treatment of gonorrhea.

Sublamin: A new salt of mercury, sublamin (mercury ethylenediamin sulphate), is stated to be of great value as a hand disinfectant, Drs Hess and Danielsohn (*Deutsche Medicinische Wochenschrift*) asserting that for this purpose it is superior to corrosive sublimate. It is not irritating to the skin as is sublimate, while it is more soluble, and Schieftan believes that it will be of value in the treatment of syphilis. As regards its toxicity, by weight, when given orally or intravenously, it is less poisonous than the bichlorid, while subcutaneously it is equally so. He concludes that its nonirritating qualities render it especially appropriate for hypodermic use.

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EDITORIAL

The Bacteriologic Laboratory

The value of having a city bacteriologic laboratory to examine specimens from all vaccine offered to the city has been amply demonstrated. A firm of vaccine makers, whose product has been used little or not at all in this city, insisted that they be given a chance to demonstrate the efficacy of their vaccine. They were informed that, before the city would purchase any, a sample would have to be examined by the City Bacteriologist. The test was made and anthrax bacilli were found. A second specimen from another lot gave like result. The moral is readily drawn.

In general, the results of the examination of vaccines by the City Bacteriologist have shown that there has been altogether too much justification for the public distrust of the purity of vaccine. When the work began it was found that many brands of vaccine contained pathogenic bacteria. With the adoption of a standard of purity, however, all this has ceased, and the carelessly-produced brands have either disappeared from this mar-

ket or their quality has been raised to something like equality with the best makes.

Thus it has resulted that the people of Cleveland have no longer any need to fear untoward effects of vaccination, except in case of deficient care of the vaccination wound. The people of other communities are, in the main, unprotected. While there have always been perfectly safe vaccines on the market, there have been makers who neglected to employ the scrupulous care necessary to secure uncontaminated virus. The vendors of the virus of dubious quality have naturally been able to market their product cheaply and to underbid the makers of the pure vaccine. It is therefore a safe rule to beware of cheap vaccine, but this alone is not a sufficient guide to safety. Ultimately some such plan as that suggested last June by the Academy of Medicine of Cleveland in a memorial presented to the American Medical Association must be put into effect. That is, vaccine must be legally given a standard of purity, and there must be devised a proper governmental machinery to inspect and vouch for the purity of this biologic product. As was suggested in the above-mentioned memorial, the United States Department of Agriculture appears to be the agency that will most readily and most effectively be prepared for this duty. The project must not be allowed to drop.

The Coroner

Before us lie the official papers in a case of accidental death that occurred not long since in a county not many thousand miles from Cleveland. A man known to have been physically healthy a few days previously, got into a scuffle with a couple of friends. According to the testimony of these men, who were the only witnesses, the deceased and one of the other men in the room fell from a bed to the floor, after which the deceased arose, lay down on the bed gasping, and, in a moment, died.

The Coroner was called, looked the corpse over, *found* no bruises, apprehended that the two men did not care to face a charge of even involuntary manslaughter, held no autopsy, and rendered a verdict of death from "*heart disease*." The fact that he had not the slightest proof to offer that would substantiate his statement that the heart was diseased, of course, did not for a moment disconcert this imaginative official. In a subsequent statement, in writing, the Coroner further ventured to assert: "In our investigation we find that he met his death by *heart*

trouble which was brought on by the violent exercise he was undergoing." As the deceased was known to have had as normal a heart as can be determined by careful physical examination, one wonders why the other man was not the one who had "*heart trouble* brought on by the violent exercise he was undergoing."

As a specimen of slipshod methods in a Coroner's office this is certainly notable, but it is feared that it is not unrepresentative. A Coroner's office, so conducted, is a travesty upon justice and an opprobrium to rational medicine. If Coroners are to continue to decide that most cases of sudden death are due to "heart trouble" and "heart failure" without taking any steps whatever to ascertain whether anything at all is the matter with that organ, the medical profession had better prepare to ask the next Legislature to abolish the office of Coroner.

Prevent Infection

Questions relating to the place of entrance of bacteria into the body are important with reference to prophylaxis. The fact that the tonsil is a portal easily guarded makes the subject of tonsilar and consequent general infection an especially practical one. It has attracted much recent attention. Menzer believes that pneumonia, measles and scarlet-fever are acquired by way of the tonsil. Packard shows that endocarditis, and Baumgarten that tuberculosis may be tonsilar in origin. Diphtheria, erysipelas and acute rheumatism are without doubt to be included in the list, and Forchheimer, in a recent paper, describes two cases of appendicitis and five of catarrhal jaundice in which a preceding streptococcus, staphylococcus or mixed infection of the tonsil made it evident that that was the place of entrance.

The observation that bacteria, often pathogenic bacteria, live for weeks or months in the mouth and throat is an old one. Every epidemic of diphtheria with symptoms is evidence of a wider epidemic of infection with the diphtheria germ without symptoms. In other words in every epidemic some of those infected are sick, others show no symptoms, but carry and may spread the disease. The pneumococcus is sometimes carried in the mouth for months, and to the man who harbors it the death-sentence is impending; its execution may be merely a matter of wet feet.

The inference is obvious, old, but neglected. Sore-throat diphtheria and consumption, to a lesser degree rheumatism and

jaundice, make the rounds of a family. To recommend an efficient antiseptic mouth-wash and gargle, for use by every member of the household, is the physician's first duty when called in a case of any infection of the mouth, throat, nose or lung.

The inefficacy of antiseptics in many contagious diseases has no bearing on their use in prevention. To take a single example, the germ of diphtheria, even when localized in plain view and within easy reach, is, in the developed disease, entrenched in living tissue. Noncorrosive antiseptics have no chance. On the other hand germs loose in the throat can escape no more easily than if they were in a test-tube.

Another point should be emphasized. Throat cleanliness, though desirable and more important to health than removal of dust from the skin, may be difficult to bring into general favor. The physician is often, however, called on to advise in regard to the care of children and sometimes of older people who are fragile and the cause of anxiety. Many such lives might be spared by the use of simple means at our command.

Eddyism

Eddyism has had some hard times lately, and the Eddyites have had their troubles. With much newspaper flourish we were told that a Miss Hoge, of Chicago, was suffering from typhoid in Washington, and that, under Eddyism, she was "progressing most favorably." Unfortunately in a few days the patient died, despite prayers and ministrations and her own credulous faith. Even death was not the worst feature of the case, because the subsequent coroner's necropsy showed that the deceased had really been ill with pneumonia. A case that better illustrates the "science" (God save the mark!) of Eddyism could hardly be imagined.

In White Plains, N. Y., little Esther Quinby was permitted to die of diphtheria without any effort being made to save her life. This case aroused so great public outcry against the inhumanity of those who practiced the Eddyistic rites and formulas over this unfortunate child, whose life might no doubt have been so readily saved, that Mrs Eddy herself felt constrained to say: "Until the public thought becomes better acquainted with Christian (?) Science (?) the Christian (?) Scientists (?) shall decline *to doctor* infectious or contagious diseases." What a come-down is this from the boldly asserted ability to cure all diseases! The head of the sect thus publicly admits the

failure of Eddyism, and the deluded followers of the rich old woman of New Hampshire will be utterly unable to see the humor of the situation.

This prohibition from the much-worshipped Concord widow-of-five contains the interesting admission that the Eddyites have been "treating" (*sic*) infectious and contagious diseases. In this they should be carefully watched.

An amusing sequel of recent events is the publicly-expressed doubt of local Eddyites as to whether Mrs Eddy really meant what she said, and as to whether the decree was really an order to be obeyed or merely a little dust thrown into the public eye. Some of them announced that they would not obey unless the order comes over the sacred signature of the most-married.

Blackmail

In illustration of the manner in which some persons seem so willing to profit by the frailties and afflictions of others, a recent occurrence in this city is very much in point. As is well known, there is some talk of the State founding a sanatorium for the treatment of tuberculosis. There has also been a suggestion made that one of the very best locations in the State for such an institution lies not very far from this city. In fact, there are many physicians who believe that it is one of the best spots that could be found in the State for this purpose. There are perhaps a few persons who would object to the establishment of such an institution near their summer residences. In view of all these facts, a certain real estate agent called upon a number of physicians to see if they could not be interested in the project of buying this land for the purpose of transferring it to the State when it should be ready to establish a sanatorium. When told that this method of getting at the object in view would be impracticable, the agent insisted that no harm could be done by raising some agitation looking toward this end. Finally it came out that his reason for interest in the project was due simply to his conviction that if the agitation could be made strong enough he would be able to induce these persons who live near the suggested site to buy the whole property at a good round price in order to prevent the State from giving them an undesirable neighbor. In other words, the scheme, so far as this man is able to see it, is one of pure blackmail. As a sequel to his efforts, it is interesting to observe that the daily papers of Cleveland shortly thereafter contained items suggest-

ing that a number of the local physicians were planning to purchase this tract of land for the purpose mentioned. It will be well to await further developments in this case in order to see whether the scheme will work. Certainly it would seem a great pity to see so beneficent a project upset by such methods.

Another Parasite of Syphilis

To the list of microorganisms which have been discovered in syphilis and which have been regarded as sustaining a causal relationship, Schueller of Berlin makes the most recent addition in a contribution of considerable length.* Without committing ourselves to the author's views, we shall lay a digest of his contribution before our readers.

Schueller reaffirms his belief that the significance of the parasites he described two years ago in cancer and sarcoma has not been affected by the numerous objections that have been made to his theory since the publication of his book, and proceeds to describe a new organism of similar kind in the lesions of lues. The exact position of these new infectious agents is not definitely settled, but they probably belong, along with the cancer parasite, to the class of simple motile nucleated protozoa. They occur in several forms, sometimes they are found as small round or oval bodies, as a rule about as large as the cell nuclei, with a double contour, nucleated and possessing fine radially arranged striæ. The surfaces are roughened, covered with small projections, and the walls contain pores through which fine filaments pass during the life of the organisms. Again they occur as somewhat larger structures of similar shape filled with granules or young forms; and finally as large lighter-colored pyriform bodies which are spoken of as empty capsules.

The author has studied the fresh initial sores, old ulcerated chancres, primarily-infected syphilitic glands, luetic joints, condylomas, gummas, and various lesions of hereditary syphilis, such as affection of the bones and variously located gummas, and claims always to have found the parasites. Even the blood of patients in the secondary stage contains the young forms, Schueller having found them in two of the three cases examined, although only dried specimens were available.

In smear-preparations from recent chancres the various forms

*Prof. Max Schueller, Berlin, *Centralbl. f. Bact., Parasitenkunde und Infektionskrankh.*, Bd. XXXII, Nos. 5, 6, 7, 8 and 9.

of the parasites may be seen. So distinctive are they that a diagnosis can be made from carefully spread covers. Sections through the initial lesions give a highly characteristic picture. Numerous spiral or zigzag canals lead from the surface of the sores to the underlying portions, widening as they go downward. Packed within these tubes and scattered throughout the affected tissues are the parasites. They lie generally between the cell-bodies, but sometimes actually within them. The organisms are most numerous where the tissue alterations are most pronounced. They are common in the walls of the smaller blood-vessels, and are, the author thinks, likely instrumental in bringing about the narrowing often seen in them. Once the parasites find themselves upon a surface where there is a solution of continuity, they probably penetrate directly into the deeper tissues, or by division and the formation of spore capsules give rise to the canals through which they reach the deeper structures. As a rule rather high powers of the microscope are required to make out these microorganisms. They may be studied fresh or stained. For the former method no preliminary treatment is required. Simple dehydration and clearing in oil, preferably oil of lemon give the best results. Aqueous salt-solutions, especially 5% ammonium chlorid, work well. Most ordinary stains may be used. Bismark-brown and indigo-carmin are recommended for double staining. The young forms are stained by Gram's method, differing in this particular from the similar organisms in malignant tumors. If pieces of freshly excised chancres or lymph-glands are placed in proper glass receptacles and kept in the peritoneal cavity of rabbits, or in an incubator, they yield a characteristic repulsive odor and a turbid fluid in which the parasites are found in various stages of development, together with many bacteria. The young forms occur singly or in pairs. Injection of such of these cultures as were nonputrefying had as a rule but little result; in rabbits there was some general disturbance, but the animals soon recovered. Once the organisms were found in the kidney and liver nine months after their injection into the former organ. There were, however, but slight tissue alterations. In both locations the parasites occurred in the vessels. The author has grown these microorganisms upon human-serum agar, and hopes to make a further study of such cultures. The anatomic location of these parasites in the canals of entrance in the initial sores, and their wide distribution in the later stages of the disease, in recurrence and in hereditary syphilis, speak strongly in favor of the assumption

that they are of essential etiologic significance, either of themselves or in connection with the various bacteria associated with them.

Conclusive proof will come only when cultures are inoculated, and for this it will be necessary to have animals more susceptible than any so far made use of. Reviewing the rather unsuccessful efforts that have been made to transfer the luetic poison to animals, the author thinks it likely that the virus was destroyed in the process by being unduly exposed to cold. However, he points out the difficulty of reconciling this objection with the well-known instances of infection by various contaminated utensils.

At all events, Schueller thinks the evident importance of his parasite merits for it further careful study, and suggests that experiments be made upon the higher apes.

Plague

At last Surgeon-General Wyman of the United States Public Health and Marine Hospital Service has called a convention of the State Health Officers to be held at Washington early in January, for the consideration of the bubonic-plague situation in and around San Francisco. Many months ago this action was suggested to Surgeon-General Wyman by the *Occidental Medical Times*; and, ever since, it has recommended itself to many eastern observers of the situation. The situation in California is steadily becoming more grave, as the number of cases is increasing. In spite of this fact, the State authorities and the newspapers have continued to deny its existence, and only lately there is an amusing item in the newspapers to the effect that an *expert* physician had just discovered that the disease was "chicken-cholera!" The limit of foolishness has been reached, we hope, and something definite must be done at the suggested conference, unless California is to witness the spectacle of neighboring States establishing a quarantine against it.

Later information develops the fact that the conference of the State health officers was not called on the initiative of Surgeon-General Wyman. His hand was forced by the provision in the new law governing the United States Public Health and Marine Hospital Service which compels the Surgeon-General to call such a conference at any time when it is demanded by the health authorities of five States. In the present instance such a demand was made by the health authorities of five States who feared that

a spread of bubonic plague to other States was likely to occur at any time. As a matter of fact a number of cases of the disease have occurred at Mazatlan on the west coast of Mexico.

A Sad Spectacle

It is distinctly sad to see an honored name dragged in the mire of quack medicines. For some weeks past, the newspapers, including many of the very best ones, have contained articles of considerable length purporting to be telegraphic news-items from New York, and with the usual flourish of the quack giving details of an "electric vitalizer" which is a "sure cure," as usual, for everything. Most of the articles contain quoted remarks from the promoter of this alleged discovery, Thomas A. Edison, Jr. How it ever came about that one bearing this name has degenerated into medical quackery remains for the present a closed page. The spectacle is not pleasant. The additional fact, that even good newspapers may be bribed into publishing this stuff as "news," is not inspiring.

A Hazardous Enterprise

A certain eastern medical journal, with some flourish of trumpets, has instituted a laboratory in imitation of that conducted by the London *Lancet* which we are told is to furnish unprejudiced chemic reports upon various drugs and proprietary remedies. In its first attempt are given the results of some examinations of different makes of hydrogen peroxid. The names of the different brands of which samples were examined are given, but strangely enough no sample of one of the best known makes is reported on. Another strange circumstance is the fact that all the brands examined show up equally well in this report. As other chemists have found very great variations between these different brands, it is to be concluded that the present report means that all the manufacturers have at last succeeded in putting on the market an absolutely stable hydrogen peroxid, unless perchance the samples examined happen to have been selected for the purpose. It seems to us that such a report is valueless unless it covers all the different makes of the product, and unless it is made perfectly clear that unselected samples were examined. The establishment of this laboratory might perhaps be regarded as an evidence of renewed enterprise on the part of the said medical journal. It is a grave question whether

such an institution in connection with a medical journal is at all desirable. It requires the most scrupulous care in such an enterprise to avoid the suspicion that those products which are not advertised in the journal are going to receive just the same treatment as is accorded to those which are brought to the notice of the profession in its advertising pages. In any event, it is certainly true that reports such as the one referred to are of no practical service to physicians, especially if the results arrived at are not in accord with those of other chemists.

A Subsidized Press

As an illustration of the place occupied in newspaperdom by quacks and patent-medicine makers the following figures convey some significance. Measured by column inches, the *Cleveland Press* of December 13, contained 1,181 inches of advertisements. Of these 1,181 inches 549, or nearly one-half, were occupied by the advertisements of quacks and nostrums. In the figures there may be a possible error of less than five inches, but the figures are very nearly correct. When a newspaper derives nearly one-half its revenue from the "fake" in medicine it is not to be expected that human nature will enable such a paper to hold unbiased views in reference to medical affairs. Until newspaper editors and publishers are all educated men, the medical profession will be compelled to contend with the opposition of those who have no conception of medical science.

The Progress of Organization in Ohio

The work of organizing the medical profession is proceeding satisfactorily in Ohio as well as in other States. It is important that the profession should be advised of the progress of this movement and the following item will indicate what has been lately accomplished in different parts of the State:

"The Council of the Ohio State Association met at the Chittenden Hotel, Columbus, November 30. All the members but one were present, and a very admirable spirit of enthusiasm in the work of organizing the profession was displayed. The State was divided up into provisional Councilor Districts, and a certain number of counties assigned to each Councilor. Views as to the best methods of carrying on the work of organization were discussed, and plans for procedure were mapped out. The Council organized by the election of Dr Brooks F. Beebe, of Cin-

cinnati, as chairman, and Dr Thomas Charles Martin, of Cleveland, as Secretary. The following is a list of the members of the Council with the district which each represents:

First District—Counties: Hamilton, Clermont, Brown, Adams, Butler, Warren, Highland, Clinton, Fayette. Councilor, Brooks F. Beebe, Cincinnati.

Second District—Counties: Preble, Montgomery, Greene, Darke, Miami, Clark, Mercer, Shelby, Champaign. Councilor, Horace Bonner, Dayton.

Third District—Counties: Van Wert, Auglaize, Logan, Allen, Hardin, Marion, Wyandot, Hancock, Seneca. Councilor, Frank D. Bain, Kenton.

Fourth District—Counties: Paulding, Putnam, Defiance, Henry, Wood, Sandusky, Williams, Fulton, Lucas, Ottawa. Councilor, Julius H. Jacobson, Toledo.

Fifth District—Counties: Erie, Huron, Medina, Cuyahoga, Lorain, Lake, Geauga, Ashtabula, Trumbull. Councilor, Thomas Charles Martin, Cleveland.

Sixth District—Counties: Summit, Portage, Mahoning, Stark, Wayne, Holmes, Ashland, Richland. Councilor, Harry H. Jacobs, Akron.

Seventh District—Counties: Columbiana, Carroll, Jefferson, Harrison, Belmont, Monroe, Tuscarawas, Coshocton. Councilor, J. C. M. Floyd, Steubenville.

Eighth District—Counties: Guernsey, Noble, Washington, Muskingum, Morgan, Athens, Licking, Perry. Councilor, Edmund C. Brush, Zanesville.

Ninth District—Counties: Hocking, Vinton, Meigs, Pike, Jackson, Gallia, Scioto, Lawrence. Councilor, John E. Sylvester, Wellston.

Tenth District—Counties: Crawford, Morrow, Knox, Delaware, Madison, Franklin, Union, Pickaway, Fairfield, Ross. Councilor, T. W. Rankin, Columbus.

There are 88 counties in the State, and at present 45 of them have County medical societies. The Council feels sure, however, that by the next annual meeting of the Association in May, 1903, there will be a medical society in every county in the State. In view of the willingness shown by every member of the Council, it is not too much to expect that this hope will be quite fulfilled. The work of organizing the medical profession of Ohio is in excellent hands."—*Journal of the American Medical Association*.

The Highland County Medical Society, early in December, adopted the new Constitution and By-Laws which is identical with that recommended for county medical societies by the Committee on Organization of the American Medical Association. The charter members of this Society are: H. M. Brown,

H. A. Beeson, of Leesburg; A. H. Beam, W. W. Glenn, J. D. McBride, C. B. Smith and John C. Larkin, of Hillsboro.

The Summit County Medical Society, on December 2, adopted a Constitution and By-Laws practically identical with that recommended by the American Medical Association. J. H. Seiler was elected President, and D. S. Bowman was elected delegate to the State Medical Association.

The Richland County Medical Society was recently organized by the adoption of the Constitution and By-Laws as recommended by the American Medical Association. The list of officers elected at the first meeting was published in the December issue of this JOURNAL.

The Columbus Academy of Medicine, on December 1, 1902, adopted a new Constitution and By-Laws which include the essential features of those recommended by the American Medical Association and which complete the necessary action to bring the Academy into close relation with the State Association as one of the component county medical societies.

The Butler County Medical Society, on December 3, re-organized by adopting, with only a few modifications, the Constitution and By-Laws for county societies that was prepared by the Committee on Organization of the American Medical Association and that was presented to the meeting by Brooks F. Beebe, of Cincinnati, who is Councilor for the first district.

The Adams County Medical Society has adopted the new Constitution and By-Laws which makes it one of the component county medical societies of the State Medical Association. As has already been noted in a former issue of the JOURNAL, its Secretary, O. T. Sproull, of West Union, is the first Secretary of a county society to make a full and detailed report upon every physician living in the county.

Governor Nash, on December 10, appointed a commission to look into the necessity for the establishment by the State of an institution for the care and treatment of deformed and defective children. This commission was provided for by act of the last Legislature. It is to make a report to the Governor on or before December 1, 1903, so that the report may be transmitted to the next session of the legislature. The personnel of the commission is as follows: Mr A. B. Voorhees, and Dr Edmund C. Brush, both of Zanesville, Rev. John Hewitt, of Columbus, Dr Charles E. Sawyer, of Marion, and Mr A. L. Spitzer, of Toledo.

Book Reviews

The Treatment of Fractures. By Chas. L. Scudder, M. D., Assistant in Clinical and Operative Surgery, Harvard Medical School. Third Edition, revised and enlarged. Octavo, 480 pages, with 645 original illustrations. Philadelphia and London: W. B. Saunders & Co., 1902. Polished Buckram, \$4.50 net; Half Morocco, \$5.50 net.

The appearance of the first edition of this work marked an epoch in the history of the literature devoted to the treatment of fractures, and it was recognized at once as a standard authority upon the subject. The fact that a third edition has been called for within as many years is, in itself, evidence of the appreciation with which Dr Scudder's efforts have been received.

The methods of treatment necessary for the various fractures are considered in such detail, even as to the sequence of the minutiae concerned, that what is so often but a vague and confused idea in the student's mind, must perforce assume a clear and definite plan, while the wealth of illustrations in the volume adds immensely to its value and serves, as no amount of descriptive text could do, to elucidate the various steps involved in the care of any given fracture.

The chapter upon the Roentgen rays and their relation to the subject of fractures, by Dr Codman, is sufficiently full and exhaustive for a work of this character, and contains much valuable information.

Several new fractures are fully described in this edition, which includes also a chapter devoted to gunshot fractures. The present volume only exceeds in value the earlier editions, and should in its new form commend itself even more successfully to student and physician alike. The important bibliography consulted in the preparation of the work is included, and a fairly complete index concludes the volume.

The execution of the press-work, a most important part in such a work, is well-nigh perfect.

A Text-Book of Diseases of the Eye. A Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. De Schweinitz, A. M., M. D., Professor of Ophthalmology in the University of Pennsylvania, etc. Fourth Edition, Revised, Enlarged, and Entirely Reset. Octavo volume of 773 pages, with 280 text-illustrations and 6 chromo-lithographic plates. Cloth, \$5.00 net; Sheep or Half Morocco, \$6.00 net.

This book has been before the profession so long (10 years) and is so favorably known that comment is scarcely needed. Its deserved popularity is well attested by the fact that it now appears in the fourth edition. The volume has grown decidedly since its first appearance, there being more than 125 additional pages, and in its present edition many special paragraphs appear for the first time, much new material has been incorporated,

and the whole book has been thoroughly revised and many portions rewritten. The volume has been brought thoroughly up to date as shown in the pathology and bacteriology, in the latest views upon questions pertaining to the eye and in the mention of many of the new therapeutic agents. There is so much of the author's own experience in the volume, as also of his well-digested and thoroughly-matured views on the present status of questions in ophthalmology, that it must prove very valuable not only to the student but also to the specialist. A very complete index, so useful a part of every book, is appended; the illustrations are very numerous, some in color, and the publisher's part of the work has been well done.

The Practical Medicine Series of Year Books. Vol. X. September, 1902. Skin and Venereal Diseases, Nervous and Mental Diseases. General Editor, Gustavus P. Head. Editors for this volume, W. L. Baum and Hugh T. Patrick. The Year Book Publishers, 40 Dearborn St., Chicago. Price, \$1.25.

This, the tenth volume for the year 1902, of this admirable series of Year-books, fully maintains the standard already established by the volumes previously issued. One wonders somewhat at the combination of subjects in this work, but it is evident that no suggested affiliation was intended.

All the most important contributions in the recent literature of the various subjects in hand are recorded here in a way that makes them easily accessible, while the full index adds much to the completeness of the work.

In many ways these volumes will appeal to the busy physician as a more bulky work can never do. The object for which they have published is, we think, successfully accomplished.

Diseases of the Stomach. Their Special Pathology, Diagnosis and Treatment, with Sections on Anatomy, Physiology, Chemical and Microscopical Examination of Stomach Contents, Dietetics, Surgery of the Stomach, etc. By John C. Hemmeter, M. D., Ph. D., Professor in the Medical Department of the University of Maryland, Baltimore; Consultant to the University Hospital, etc. With many Original Illustrations, a Number of which are in Colors and Lithograph Frontispiece. Third Enlarged and Revised Edition. Philadelphia. P. Blakiston's Son & Co. 1902. \$6.00 net.

Dr Hemmeter's work upon the Diseases of the Stomach is too well known to need any extended comment. In this the third and last edition of the work the subject has been brought thoroughly up to date, much new and valuable matter having been incorporated, the result of the tremendous strides which have been made in this as in every department of medicine. Indeed the fact which first strikes one's attention is the object lesson, patent to everyone, in the size of this volume. Were the student of medicine today made to believe that he must

assimilate the immense amount of knowledge of one organ of the human body contained in this work, he must needs be discouraged at the outset. Fortunately this is not necessary, nor was it intended that the work should ever be considered as a manual.

The ground covered is so extensive, and the method of consideration so exhaustive that this work necessarily assumes the character of a reference volume, and as such occupies an important and unique place as a standard work of real value.

The literature of the various subjects under consideration is given in sundry alphabetic lists, a very important addition to the volume. The numerous illustrations including the colored plates are well executed. The value of the work is further enhanced by an index of authors as well as of subjects.

The publisher's name is in itself a guarantee of the excellent way in which the mechanic part of the work has been completed

A Text-Book on Diseases of Infancy and Childhood. For the Use of Students and Practitioners. By Henry Koplik, M. D., Attending Pediatricist to Mt. Sinai Hospital, New York; ex-President of American Pediatric Society, etc. Octavo, 675 pages, 169 engravings and 30 plates in colors and monochrome. Cloth, \$5.00, net; leather, \$6.00, net. Lea Brothers & Company, Philadelphia.

In this kaleidoscopic age it is only possible to keep in touch with all that is being accomplished in the several branches of medical science by following the work of those recognized as leaders in their special fields. In view of which fact, it was but natural that the appearance of this work should have been looked forward to with great interest. In the volume before us we have not only the experience and judgment of the writer, but the best that is representative of foreign workers as well.

Throughout the work the influence of the writer's individuality is apparent, and there is often a delightful refreshing positivism in reference to the subject outlined that is convincing as well as helpful.

The early pages devoted to the general management and hygiene of infancy and childhood are clearly and instructively written, though to the student an occasional explanatory omission, as for instance, just what constitutes Kernig's symptom (p. 31) might be confusing. We note with pleasure the author's expressed opinion that a child should never be forced to take a medicine.

The one criticism that we have to offer on the chapter devoted to Infant Feeding is that it is too short, and as a solution to feeding in difficult cases leaves much to be desired. The value to the student, and to the physician remote from milk laboratories, all works on pediatrics is largely estimated by the help to be obtained from the chapters devoted to this subject, and we cannot fail to express the hope that in a subse-

quent edition this important section may be dealt with more exhaustively.

The chapters devoted to the specific infections are very satisfactory and complete, barring only an occasional confusion of words. The statement on page 139 that "*complete suppression* of the urine, with blood and all the anatomical elements of severe inflammation of the kidney, will sometimes be followed" etc., is meant to convey altogether a different meaning than a literal interpretation of the wording would admit (*italics ours*).

In the discussion of the treatment of the diseases of the respiratory tract there is much that is interesting and suggestive, though we have never before seen taught the advisability of doing a thoracic paracentesis so far posteriorly as is recommended on page 422, plate XVII.

We note with interest that under the Leukemias, Koplik classifies the Pseudoleukemic Anemia of Von Jaksch as a distinct clinical entity.

The illustrations, of which there are many scattered throughout the text, are in the main excellent. The monochrome plates have been largely drawn from life and photographs, and it is a pleasure to pick up a new text-book abounding with so many fresh and original illustrations, though as to the fidelity with which some of them have been executed in reference to the age of the subject there is an occasional extraordinary lapse. (See plate IV.)

Dr Koplik has succeeded in presenting this most important subject in a succinct and concise manner. That here and there a fuller treatment of the text in hand would add much to the ease of its interpretation must, we feel, be admitted. This book will, however, find its place at once among the works most sought in pediatric literature, and as representing the views of its eminent author must always carry great weight, and prove most valuable to the student and physician.

The publisher has accomplished his part of the work in a way that leaves nothing to be desired.

The Diseases of Infancy and Childhood. For the Use of Students and Practitioners of Medicine. By L. Emmett-Holt, M. D., LL.D. Copiously Illustrated. Second Edition, Revised and Enlarged. New York: D. Appleton & Co., 1902.

In this, the last edition of Dr Holt's well known text-book, the work has undergone the thorough revision made necessary by advances in medicine during the last five years. To those who knew the older volume well the most marked change will be found in the chapters devoted to that all-important subject—nutrition and infant-feeding. Anyone at all familiar with the progress along this line must appreciate the success with which the author has systematized the results that have been achieved in this branch, and the clear way in which the many indications that may arise for proper infant-feeding are specifically con-

sidered and made plain. While at first missing the first formulæ of the earlier work, we have found the newer ones simpler and more convenient than the old.

Throughout the work the evidence of careful revision is everywhere apparent, and the volume represents essentially the best exposition of the latter day pediatric teaching.

In a work in every way so modern and complete, we note with regret the omission of all doses and measurements in the metric system, and wish much that these figures had been included along with the old notation. The statement of the relation of the bacillus dysentericus of Shiga and Flexner to the acute ileocolitis of children is especially interesting in the light of the very recent work along this line.

In considering anodynes the author says on page 51 that chloral must always be given by the rectum, and later, on page 89, that it may be given by mouth or rectum. The same confusion might arise in the student's mind as to the use of phenacetin and antipyrin (see pages 48 and 51).

A very full index concludes this work which can but meet with as cordial an appreciation by students and physicians alike as did the early edition, and will appeal especially to those whose work lies largely among children, and to the physician remote from the large cities with their easy facilities for infant-feeding. The paper, typography and press-work are excellent.

It is a peculiar fact that the letters and other writings of DeQuincey, Carlyle, Darwin, Huxley and Browning, liberal as they are with references to the continued ill-health of those great writers, have not before this suggested to the medical profession an opportunity for research into the causal factors of those physical conditions. That the opportunity has not until now been recognized in its proper light is evidenced by the hitherto total absence of any work dealing with this subject. Dr George M. Gould's *Biographic Clinics* (P. Blakiston's Son & Co., Philadelphia), which is devoted to this neglected subject should, therefore, prove a most unique and valuable contribution to biographic and medical literature. The work is announced for publication in December.

Dr Gould has gathered from the biographies, writings and letters of the five men named every reference to their ill-health. Each endured, as is well known, a life of suffering which made almost every day a torment and by which their work and worth as an asset of the nation and civilization was conditioned and often rendered morbid. The cause of their affliction was an utter mystery to their physicians. No explanation explained, and no cure cured. Dr Gould has gone into the "why" of this very thoroughly, and the conclusion reached by him, from logic and from a careful summary of the clinical symptoms, is that each of the writers suffered from eyestrain, and that scientific correction of their ametropia would have transformed their lives

of misery into lives of happiness. A history of the discovery of astigmatism and eyestrain, with a discussion of its indications and responsibilities, completes the work. It is interestingly written, and will undoubtedly meet with a ready sale among medical men and those interested in the works and lives of the quintette of great writers.

Obtaining Money Under False Pretenses

Cleveland, 6th Nov., 1902.

Editor CLEVELAND MEDICAL JOURNAL

Dear Sir:—Possibly there is no set of men who are more frequently made the object of sharpers' methods than those of the medical profession. Twice recently I have been approached by very respectable looking parties who had professional business propositions to submit which were quite feasible and which would materially increase one's income.

The first I shall not relate as it did not appeal very favorably to me and I did not pay much attention to it. The second, however, was substantially as follows:—The party represented himself as coming from Buffalo, where he represented a Life Assurance Company, the head office being in Toronto, Ont. He had been sent to see *me* by the Medical Director of the Company (a prominent Toronto physician) to learn if I would assume the duties of State Medical Director, as the Company was about to begin operations in this State. Personally knowing something of the Company and the Medical Director, and as the reputed representative answered a number of questions very satisfactorily, I finally decided to act in the capacity requested.

The next move was to fill out a necessary blank which was represented as being merely a matter of form. Then came the necessity of making application for a policy, only a small amount being necessary, to show my good faith. This being finished a fee of five dollars in cash was requested to pay for examination. Not until this point was reached did anything appear to be crooked. This to me was an unusual procedure and I refused to give the \$5.00. However, he insisted it was the policy of their Company to have the \$5.00 paid in advance. My plea that I did not have the necessary amount on my person but that I would give a check seemed to be satisfactory. As representative he requested the check be made payable to him. My suspicions being aroused I dated the check a few days in advance and made it payable to the Company. He accepted it but was not altogether pleased.

As soon as he was gone I communicated with the head office and received a reply that there was no intention of the Company doing business in Ohio and that the alleged representative was a fake. My lesson was learned. In the future when I accept a proposition requiring immediate financial acknowledgment I shall give a check dated in advance so that I may stop payment on it if investigation reveals a fraud. My \$5.00 check has never been cashed.

M. D.

Medical News

Stowel B. Dudley, of Monroeville, will locate in Canton.

John J. Chambers, of Alliance, left for Alaska, October 30.

C. A. DeWitt, of Ogontz, will change his location to Atwater.

Born on October 11 to M. D. Stepp and wife, of Cleveland, a son.

Otis L. Cameron will be appointed deputy coroner of Cincinnati.

Henry McGraw, of Pleasant Ridge, has been very ill with phlebitis.

R. N. Sheldon, of Canal Dover, has changed his location to Norwalk.

C. S. Hiddleston, of Atwater, has sold his practice and will soon leave.

C. W. Russell, of Springfield, was reported very ill October 24.

C. Smith and Miss C. Hall, of Lebanon, were married October 22.

George Crosby left Pomeroy, October 29, to practice in Fayetteville, Pa.

Dr Hawkins, of Xenia, was reported recovered from smallpox, November 14.

Edward H. Porter and Miss Harriet Noble, of Tiffin, were married October 29.

Joseph Larger has successfully succeeded L. P. Lisle as Health Officer of Celina.

The Cincinnati City Hospital will have a special ward for the treatment of poisons.

W. C. Scott, of Haviland, was a candidate for Coroner on the Republican Ticket of Paulding.

Harry E. Cover, of Batavia, and Miss Mary A. Morgan, of Cincinnati, were married November 5.

George W. Crile, of Cleveland, spent a few days during the middle of November in New York.

Six cases of typhoid fever were reported from one block in Toledo during the latter part of October.

C. W. Heffner, of Bellefontaine, has a position in the eye department of the Jefferson Medical College.

A case of smallpox was reported at Bellefontaine, October 29, and several persons are under quarantine.

John C. Hathaway, of Mechanicsburg, and Miss Fern Kimball, of Woodstock, were married November 7.

Carlisle M. Southard, of Zanesville, and Miss Georgia M. Gault, of Columbus, were married October 29.

Thomas M. Lea, of Bowling Green, and Miss Anna Hathaway Poe, of Fostoria, were married October 31.

On November 5 it was thought best to close all the schools in Urbana on account of the smallpox situation.

Typhoid fever is very prevalent in Toledo, and the Health Department justly urges physicians to report all cases.

Adah Horman, of Cincinnati, will serve an 18-month sentence at the Columbus penitentiary for alleged blackmail.

Joseph Ransohoff, of Cincinnati, who has been suffering from septicemia, was reported to be doing nicely on November 15.

Walter Chidister, of Tippecanoe City, a military surgeon in the Philippines for several years, is visiting his mother and sister.

The Cincinnati Polyclinic, a school for postgraduates, is now an assured fact. L. J. Krouse is the president of the institution.

Toledo has established a down-town free vaccination bureau where five physicians will do the operating. Cleveland's plan is better.

Two well-developed cases of smallpox were reported at Laura, November 19. School and public meetings have been closed.

Springfield is trying to find a way to raise \$1,000 to meet the excess of an \$1,800 appropriation to combat the smallpox situation.

A case of smallpox, the first in 30 years, was reported at Chardon during the middle of November. This case died November 19.

Alliance physicians who visited the suspected smallpox case at Sebring, November 8, have pronounced it a mild case of smallpox.

The Clark County Medical Society held its regular meeting November 17 at Springfield. J. E. Myers read a paper on "Neurosis of the Stomach."

"Dr" W. B. Georgia, of Findlay, practicing as an oculist and doing very extensive advertising, has been arrested for practicing medicine without a license.

William J. Taylor, of Cincinnati, read an interesting paper on "The X-ray Treatment of Certain Malignant Growths," before the Academy of Medicine of that city.

A number of State officials, Attorney-General Sheets presiding, met in the Governor's office, October 21, and adopted suitable resolutions on the death of E. G. Carpenter.

E. G. Carpenter leaves an estate valued at \$125,000. The child of the deceased is given the property in full, but the transfer is not to be made until after the death of the mother.

J. V. Longfellow, of Urbana, is willing to make affidavit that all the cases reported as smallpox in Urbana are nothing but chickenpox. On November 4 the smallpox signs were still up.

The Miami County Medical Society met at Troy on November 12. Dr Davis, of Covington, read a paper on "Tonsillitis" which was freely discussed. The next session will be held at Piqua.

Massillon is trying to get a City Hospital. All the way from \$2,500 to \$25,000 has been suggested as an adequate amount to start with. It is not yet definitely known where the funds will come from.

According to the new code, Health Boards will be appointed by the Mayor, but no authority is left to appoint employees, and there is nothing to show when the term of the Board begins or when it ends.

Wm. W. Smith, City physician of Portsmouth, says that there are three cases of smallpox in the detention hospital of that place, and that he is certain that several more cases are being concealed about the city.

Cincinnati has, like Cleveland, issued orders that no child shall enter school unless it shows evidence of a successful vaccination. Such evidence must be found by a medical examiner appointed by the Health Department.

The regular meeting of the Franklin County Medical Society of Columbus was held November 8. "Hemorrhages" was the subject taken up for discussion. Papers were read by J. A. Bishop, Sherman Leach and C. W. McGovern.

At a meeting of the Board of Trustees of the Columbus State Hospital for the Insane, held October 22, George Stockton, senior physician, was unanimously chosen superintendent to fill the vacancy caused by the death of E. G. Carpenter.

Joseph Barth, an employee of the Globe-Wernicke Company, of Cincinnati, has brought suit against his employers for \$5,200. The firm insisted on all its employees being vaccinated and Barth claims that he sustained "blood poisoning."

A meeting of the Columbus Academy of Medicine was held October 27. The subject discussed was "Insurance Examinations," and papers were read by S. S. Wilcox, F. W. Blake, G. W. Walters, J. H. Upham, W. D. Deuschle and D. L. Moore.

A case of smallpox was reported from 432 Second street, Toledo, October 27. The daughter of the patient had been attending school for three days during which the disease was already pronounced, and as a result about 900 children have been exposed.

On November 8 there were in Cleveland about 34 cases of smallpox as against some 240 when conditions were most alarming. The fight against the disease is still being vigorously pursued. At present there is only one case of the disease to every 12,000 inhabitants.

Health Officer Friedrich, of Cleveland, will ask in the adoption of the proposed group plan that provision be made for the establishment of a separate building in connection with the City Hall for the exclusive use of the Board of Health and for the centralization of its laboratories.

The Bulletin of the State Board of Health for the week ending November 8 as to the prevalence of smallpox in the State, shows that while during the previous week smallpox prevailed at 20 places in 16 counties and there were 54 cases, there were during the last week 59 cases in 19 places and 14 counties.

Following the action of the State Board of Medical Registration and Examination which revoked the right of C. F. Cookes and Asa E. Hoskinson, of Columbus, to practice medicine on account of an alleged criminal abortion, the grand jury has found true bills against both of the above-mentioned physicians and has caused their arrest. The court has placed them each under \$1,000 bonds.

The fifth annual convention of the Southern Surgical and Gynecological Association, held at Cincinnati, came to an end November 13. J. Wesley Bovee, of Washington, was elected President for the ensuing term. Thaddeus A. Reamy, of Cincinnati, had the enviable honor of honorary membership conferred upon him, a distinction held by no other man. The next meeting will be held at Birmingham.

At the meeting of the Southern Medical College Association, held at Cincinnati on November 10, the Memphis Hospital Medical College, of Memphis, severed its connection with the main body. The Memphis Hospital Medical College has a three-year course of study and practically no preliminary requirements, whereas the rest of the schools require a four-years' course of study, and the requirements are apace with those of other medical schools.

Deaths

Charles M. Bethauser, of Columbus, aged 69 years, died October 30.

A. M. McKinney, of Defiance, aged 77 years, died October 27.

John L. Gage, of Painesville, aged 80 years, died November 3.

As the result of a natural gas explosion, Andrew B. Mason, of Toledo, died November 11, aged 64 years.

A. J. Manville, of Bowling Green, one of the oldest physicians of Wood County was instantly killed by a train at Custer, November 3.

The Cleveland Medical Journal

VOL II

FEBRUARY, 1903

NO 2

A Study of Tuberculosis in Cleveland

INTRODUCTION

BY WILLIAM T. HOWARD, JR., M. D., CLEVELAND

Professor of Pathology in Western Reserve University

The work which is to be reported to you this evening is the result of the efforts of a Committee appointed by the President of the Ohio Society for the Prevention of Tuberculosis to study the frequency and distribution of tuberculosis in Cleveland. Similar Committees have been set to work in all the cities of the State pursuant to a resolution presented by the writer and adopted at the first meeting of that Society held in Columbus, in November, 1901. Each of these Committees is composed of three members who may, however, add to their numbers any local members of the Society who are interested in the work. Thus it is hoped that these Committees may act as foci of interest and enthusiasm in the fight against tuberculosis as well as serve the purpose of collecting all available information concerning the frequency and distribution of this dread disease in our cities.

The Cleveland Committee, consisting of Drs W. O. Osborn, Martin Friedrich and the writer as Chairman, had no difficulty in enlisting the cooperation of some 25 of the younger physicians of the city, many of whom were residents in the various hospitals, and early last January a meeting of the full Committee was held

to determine the scope and methods of the proposed investigation. It was decided to analyze the records of the Health department for all deaths from tuberculosis, and to search the records of the various hospitals, dispensaries and pathologic laboratories for cases of tuberculosis for the period of seven years from January 1, 1895, to January 1, 1902. This work was apportioned to various subcommittees which, at the expenditure of great labor and patience, collected the available data in a remarkably short time. The data obtained included the age, sex, nativity, social relation, occupation, time of residence in Cleveland, street and house number, organs affected, and character of the lesion, the cause of death in fatal cases, and, when possible, the influence of heredity. The health office records were analyzed by a committee consisting of Drs W. O. Osborn, W. H. Merriam, C. F. Welty, F. C. Herrick, M. Friedrich, and A. F. Maschke. On the subcommittee in the City Hospital were Drs R. H. Cowley, H. G. Wagner and C. H. Bell. On the subcommittee on the Lakeside Hospital were Drs G. W. Moorehouse, Howard Ditrick, Johnson, A. H. Bell and A. L. Ludlow. On the subcommittee on the Cleveland General Hospital were Drs C. J. Aldrich, C. G. Foote, and R. G. Schnee. On the subcommittee on Charity Hospital were Drs F. J. Geib and E. O. Houck. On the subcommittee on St. Alexis Hospital were Drs M. F. Metzenbaum, L. B. Tuckerman, and Garrison. On the subcommittee on the Marine Hospital were Drs W. J. Pettus and B. Foster. On the subcommittee on the St. Clair Street, the Deaconess and St. John's Hospital were Drs A. F. House and Arthur Brown, C. C. Stuart and J. Newberger. Dr A. B. Schneider sent statistics from the Huron Street Hospital. Drs J. C. Darby and H. P. Parker undertook the analysis of the autopsy records of the pathologic laboratories of Western Reserve University and of the Lakeside Hospital. All the data from the health office, hospitals, and dispensaries were turned in for final analysis and study to a central committee consisting of Drs W. O. Osborn, G. W. Moorehouse, F. C. Herrick, C. F. Welty, W. H. Merriam, A. S. Maschke, W. B. Laffer, and the Chairman. The results of this investigation, which will be presented in various papers, give fairly accurate information concerning the frequency of tuberculosis in Cleveland, the relative frequency of the involvement of the various organs, the relation of age, sex, occupation, social station, and nativity to tuberculosis among us, and finally the exact location of the fatal cases for the last seven years. The latter will be shown graph-

ically on suitable maps. The Committee regards this as one of the most important features of the study. A large number of the tuberculous infected houses in this city are known.

What should be done is clear. Tuberculosis should be overlooked like diphtheria, scarlet-fever, measles, whooping-cough and other infectious and contagious diseases, and heads of families and medical attendants should be required to report to the health office all cases of tuberculosis coming within their knowledge. Earnest effort must be made to obtain the necessary legislation to secure this. The Health Office should disinfect tuberculous infected houses and distribute with judicious care, subject to the proper control of the physician, to the victims and their families information regarding the proper care and disposal of sputum and other discharges, as well as in the well-known and equally neglected principles of personal and public hygiene, enforcement of which is so necessary in limiting the spread of this disease. The streets, sidewalks, public buildings and conveyances should be properly cleaned, protected and disinfected.

We, physicians and laymen alike, must do our duty and lead and direct public opinion and sentiment in the proper direction; report our cases of tuberculosis and throw our influence on the right side. The health department must be provided with the organization, power and means of carrying on the fight. We must stand behind it, give it our moral support as well as see that it is provided with the ammunition and men-of-war. We must realize the fact that the Health Office is our creature and a true reflection of our own position in municipal sanitation. I need not remind you of the great need of sanatoria for the treatment of both curable and incurable cases of tuberculosis of all kinds, and of the good influence they would also have in the dissemination of correct ideas concerning the prophylaxis of the disease. We trust that the good work of these young men will bear fruit. They have done their part well. Will we do ours? I take this opportunity to thank, in the name of the original committee, those who so cheerfully and so efficiently cooperated with us.

The Frequency, Site and Course of Tuberculosis in Cleveland

AS SHOWN BY 658 AUTOPSY RECORDS FROM LAKESIDE HOSPITAL AND THE
PATHOLOGIC LABORATORY OF THE WESTERN RESERVE UNIVERSITY

BY JOHN C. DARBY, M. D.,
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and HENRY P. PARKER, M. D.,
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It is the object of our paper to deduce some statistics of value regarding the prevalence of tuberculosis in Cleveland as shown in the record of 658 autopsies. These records have been derived from two sources: first, those from the Pathologic Laboratory of the Medical College of Western Reserve University during the last eight years; and those from the Pathologic Laboratory of The Lakeside Hospital since its foundation four years ago. The records from the Medical College consist of 320 autopsies derived from various sources. About two-thirds of these were from autopsies performed at the City Hospital, the remainder from autopsies done at Charity and St. Alexis Hospitals and in private residences. The Lakeside Hospital records comprise 338 autopsies, practically all of which were performed at that institution. Of these 658 autopsies 195 or 29.6% showed definite tuberculosis. This includes all cases which showed the presence of the tubercle histologically or macroscopically; cases having caseous or calcified bronchial lymph glands, and cases showing very evident fibroid change at an apex of a lung with apical adhesions or puckering.

Active tuberculous processes were found in 120 cases, which is 18% of the 658 autopsies analyzed, or 61.5% of the cases showing definite tuberculous lesions. We include among our cases of active tuberculosis those showing the tubercle histologically, and all cases having caseous bronchial glands with an evident focus in some other part of the body. The nonactive cases comprise those having caseous or calcified bronchial glands without demonstrable tuberculous lesions elsewhere, and also those cases in which there is an evident fibroid change at an apex of a lung with apical adhesions or puckering. Of the 658 cases analyzed tuberculosis was the cause of death in 72, 11% of all cases, or 60% of those having active tuberculosis.

Of the 463 cases not considered tuberculous 38 or 5¾% of the total number showed localized fibrous adhesions at an apex of a lung or else well-marked apical puckering. There were found

139 other cases where fibrous adhesions had been noted in various places over the surface of the lungs. A large percent of these 139 cases either had well-marked arteriosclerosis, or a history of pneumonia, pleurisy or rheumatism. Of these cases we feel that the first group, $5\frac{3}{4}\%$ of all cases, should be included with our cases of definite tuberculosis. We are confident that this group as well as a portion of the second group would prove definitely tuberculous if examined exhaustively for tuberculous lesions.

In the cases of *active* tuberculosis in which the age is noted we find under 10, 4.6%; from 10 to 20, 4.6%; from 20 to 30, 19.8%; from 30 to 40, 22.6%; from 40 to 50, 17.9%; from 50 to 60, 15%; over 60, 15%.

The mortality per decade of those cases showing active tuberculosis is as follows: Under 10, 80%; from 10 to 20, 80%; from 20 to 30, 56%; from 30 to 40, 50%; from 40 to 50, 42%; from 50 to 60, 50%; over 60, 12.5%.

The distribution of tuberculosis throughout the body was as follows: Lungs, 167 cases, 85.5%; bronchial glands, 63 cases, 37.4%; spleen, 23 cases, 11.8%; intestines, 21 cases, 10.7%; kidney, 19 cases, 9.7%; liver, 15 cases, 7.5%.

The nervous system was affected in 8 cases, the peritoneum in 7, the bones and joints in 7, the pericardium in 4, the adrenals in 4, the mesenteric glands in 3, the larynx in 2, the myocardium in 2, the voluntary muscles in 2, the fallopian tubes in 2, the pancreas in 2, the thyroid glands in 2, the cervical glands in 2, the prostate and thymus in 1 case each. The skin was not affected. Miliary and general tuberculosis was present in 28 cases or 14.3% of the definitely tuberculous cases.

The primary focus, as far as could be obtained from the autopsy records, was as follows: Lungs, 159 cases, 81.5%; bronchial glands, 30 cases, 15.4%; vertebrae, 3 cases; mesenteric and cervical glands, 2 cases each; peritoneum, 1 case.

In a recent article by Naegeli of Zurich, of 164 autopsies, 40% showed definite tuberculous change. In a later 344 autopsies the organs were examined very exhaustively with especial reference to the presence of tuberculous foci. Of these 97% showed tuberculosis.

It is only fair to suppose that our percentage of tuberculous lesions, 29.6%, is considerably less than is really the case, for the histologic examination did not have for its sole aim the diagnosis of tuberculosis. Also a number of autopsies were performed at private houses in which the lack of time and proper facilities made

an exhaustive search impossible; moreover, tuberculosis is doubtless less frequent here than in Europe.

The autopsy records of Lakeside Hospital in comparison with those of the Medical School show about 10% more of definite tuberculous lesions, although cases of frank pulmonary tuberculosis are very rarely admitted to that Hospital. This difference is due to the fact that at Lakeside Hospital the organs are examined with especial care for tuberculous foci.

CONCLUSION

1. We wish to impress the fact that our figures of 29.6% of definite tuberculosis at autopsy fall considerably below the true figure, and so wish to include our $5\frac{3}{4}\%$ of cases with apical adhesions or puckering. Granting this, a total of 35.3% or 1/3 of all autopsies show tuberculous change, and this is a very conservative estimate.

2. Active tuberculous processes were found in practically half of all cases showing definite tuberculosis.

3. In over half of these active cases tuberculosis was the cause of death.

4. Under 20 years of age active tuberculosis is almost always fatal. After this age the mortality of active tuberculosis steadily decreases, so that death from tuberculosis is comparatively rare in persons over 60 years of age.

5. The relative frequency of tuberculosis in a few of the principal organs is in the order named, lungs, bronchial glands, spleen, intestines, kidney, liver and nervous system. The other portions of the body are comparatively rarely affected.

6. The primary focus seemed almost invariably the lungs and occasionally the bronchial glands.

We wish to extend our thanks to Dr W. T. Howard, Jr., for his kindly assistance and supervision in compiling these statistics. To Dr Howard Ditrick we are also indebted for much assistance in the analysis of the autopsy records.

On the Nativity of Decedents from Tuberculosis in Cleveland for the Years 1895 to 1901

BY CULLEN F. WELTY, M. D., CLEVELAND*

In a total of at least 3,253 deaths from tuberculosis in the city of Cleveland for the years 1895 to 1901, the committee ascertained the nativity of 3,239 of the decedents. Of these 730 were born in Cleveland, 1,203 elsewhere in the United States, or a total of 1,933 native born to 1,306 foreign born. With an

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*Since preparing this paper Dr Welty has removed to San Francisco, Cal.

estimated average population of 357,443 the mortality of the decedents would be as follows: 119 deaths from tuberculosis to each 100,000 of the native born population, 151 deaths from tuberculosis to each 100,000 of the foreign born population, and a general mortality of 130 to each 100,000 of the total living population. On account of the absence of any statement in the census returns as to the number of individuals born in Cleveland as compared with those born in other parts of the United States, it is impossible to make any statement as to the relative mortality of these classes of our population.

At the International Congress for the consideration of the best methods for checking or curing tuberculosis, reported by de Schweinitz, Köhler, the President of the German Health Office,¹ presented from official sources the mortality of the several countries of Europe. The table appended makes it possible to compare directly the figures given by Köhler with the mortality

TABLE I

	A	B	C	D
Russia.....	399	101	3,609—	55
Austria.....	363	119	4,630=	173
Hungary.....	318	131	9,558=	126
France.....	302	94	485	.....
Sweden.....	231	123	1,000	200
German Empire.....	225	125	40,648=	138
Switzerland.....	203	187	1,288	466
Ireland.....	203	177	13,120=	199
Denmark.....	191	114	373	.....
Netherlands.....	188	355	804	.....
Italy.....	187	203	3,065=	65
Belgium.....	177	100	26	.....
Norway.....	174	100	249	402
Scotland.....	173	185	2,179—	184
England.....	136	102	10,621=	85
Bohemia.....	.....	202	13,599=	155

A. Köhler, from European health reports, based upon the total population of those countries for one or more years.

B. Mortality in Cleveland, 1895-1901, based upon estimated average number of the foreign born by country.

C. Number of foreign born by country at the time of the last decennial census in 1900.

D. Mortality in Cleveland in the year 1900, by country.

for Cleveland of individuals born in the various countries. In estimating the population of a city or country for a noncensus year the irregularity of immigration is the cause of almost all doubt as to the correctness of the final estimate. The method of taking proportional parts of the estimated average population,

(¹) Sixteenth Annual Report, U. S. Bureau of Animal Industry, p. 126.

which was employed for the purpose of determining the number living by age, sex, etc., in the succeeding paper, and which gave results as reliable as is the estimate of the average population itself, is a very unsatisfactory aid in determining the number of the foreign born population by country since the rate of increase by immigration is so variable.

For the reasons just given, column B in the table is not to be considered a satisfactory answer to the question under consideration. Column C was introduced into the table to show the population by country in 1900, and column D, the mortality in that year. The only results that can make any claim to accuracy are those based upon a considerable population. The Hungarian, German, Irish, English, and Bohemian had the largest foreign born population in 1900, and the difference between the mortality of these nationalities, as shown in columns B and D, is much less than the average differences between these columns for the other nationalities.

It will be noticed that the mortality from tuberculosis of the countries mentioned is higher in all cases than that of Cleveland residents born in these countries. Comparing columns A and C, the Irish seem to have profited little by their change of country, the mortality for Ireland being only about 1.1 times the mortality of the Irish in Cleveland for the year 1900. The mortality for both Germany and England is 1.6 times the mortality of persons living in Cleveland in 1900 of German and English birth. The Hungarian seems to have profited greatly by his change, Hungary giving 2.5 times the mortality shown for persons of that birth in column D.

Finally, both the Irish and the Bohemian seem to suffer severely from the ravages of tuberculosis.

On the Relation of Age, Sex and Conjugal Condition to Deaths from Tuberculosis

BASED UPON A STUDY OF THE DEATH-REPORTS OF THE CITY OF CLEVELAND FOR SEVEN YEARS FROM 1895 TO 1901

BY GEORGE WILTON MOOREHOUSE, M. D., CLEVELAND

Visiting Physician to the Dispensary of Lakeside Hospital

General: During the years under consideration 37,567 deaths occurred from all causes in the city of Cleveland. From a study of the death-reports in the Health Office of the city the committee has data on the age, sex and conjugal condition of 3,253, or 8.7%

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of this number, who are said to have died of tuberculosis. Table I gives a general summary of the results for each year; the number of deaths by year, the estimated population by year, and the mortality by year, both for the general population, and for males and females.

It may be seen from Table I that our average mortality, based upon my estimate of the population for these years, is 130 deaths to each 100,000 of the population. I am indebted to Dr H. E. Handerson for an estimate of the population computed according to the method employed by the Registrar-General of England, and on this basis the mortality is found to be 131 per 100,000. In the census year 1900, the only one for which we can secure an accurate statement of the population of the city, the mortality is

TABLE I
DEATHS FROM TUBERCULOSIS BY YEAR

	1895	1896	1897	1898	1899	1900	1901	Total.
Male.....	236	243	245	268	278	281	291	1842
Female	210	209	227	227	192	188	158	1411
Total	446	452	472	495	470	469	449	3253
Estimated Popula- tion.....	321,000	333,333	345,000	357,333	369,333	381,768 ²	394,333	357,443 ¹
Male	162,426	168,666	174,570	180,810	186,882	192,616 ²	199,542	180,996 ¹
Female	158,574	164,667	170,430	176,523	182,451	189,152 ²	194,791	176,447 ¹
Mortality Male.....	.146	.144	.141	.148	.149	.146	.147	.146
“ Female...	.132	.127	.133	.128	.106	.100	.082	.115
“ Total...	.139	.136	.137	.139	.128	.123	.114	.130

(¹) Average.

(²) Census.

lower still, namely 123 per 100,000. There was, apparently, some cause for a marked decrease in the female mortality beginning with the year 1899 and culminating in the year 1901. This decrease in the female mortality, without corresponding decrease in the male mortality, has diminished greatly the total mortality in the years 1899 to 1901, and has even affected the total mortality for the seven years covered by our investigation. For the first four years of this period the average male mortality is 145, the average female mortality, 138, and this gives an average total mortality of 142. For the last three years the average male mortality is 147, the average female mortality, 96, and the average total, 121. In other words, with no diminution in male mortality, there occurred in the last three years of this period so great a decrease in the number of female deaths from tuberculosis as to cause

a decrease of 21 per 100,000 in total tuberculous mortality for these years as compared with the four years immediately preceding. This is a condition of affairs which is very hard to explain unless, as I suppose, it is due entirely to accident.

It will be interesting to compare our average mortality of 130 deaths to each 100,000 of the living population with that found by other observers. In the census year 1890, 28 cities of the United States, each having a population of 100,000 or more, gave an average of 268.81 deaths from consumption to each 100,000 of the population. The cities named in Table II show the range of mortality as given in the census tables, from New York with the greatest mortality to Omaha with the least. It will be noted that Cleveland occupies a favorable position on the list, and that the mortality of the cities situated along the Great Lakes is uniformly less than the average mortality. These figures give simply the mortality from phthisis not that from tuberculosis in general.

TABLE II

DEATHS FROM CONSUMPTION IN 1890, PER 100,000 OF THE LIVING POPULATION

New York City	387.45	Buffalo	186.18
San Francisco	378.26	St. Louis	184.61
Boston	375.72	Milwaukee	183.89
Baltimore	293.02	Kansas City	179.33
Indianapolis	283.58	Chicago	175.93
Cincinnati	280.22	Detroit	162.23
Philadelphia	279.57	Cleveland	158.79
Denver	240.83*	St. Paul	125.42
Rochester	213.60	Omaha	67.64

*Exclusive of deaths of nonresidents.

As reported in the previous paper¹ the mortality of European nations ranges from 136 to 399 per 100,000, and we note that de Schweinitz², the official representative of the United States to the Congress at which these figures were given, remarks that "available statistics for the United States indicate a slightly lower death-rate than any of these countries."

More males than females died of tuberculosis, both actually and relatively, in numbers 1,842 males and 1,411 females. While only 50.6% of the population of Cleveland are males, 56.6% of the deaths due to tuberculosis are male deaths. One and two-tenths percent of the population represents the excess of males over females, while the excess of male over female deaths from tuberculosis is 13% of all tuberculosis deaths. In respect to the

(1) Welty, on the Nativity of the Decedents from Tuberculosis in Cleveland.

(2) Sixteenth Annual Report of the U. S. Bureau of Animal Industry, p. 126.

greater mortality of the male from tuberculosis, other observers have in general reached the same conclusions. In England female deaths from tuberculosis exceeded male deaths in the years 1851 to 1860 by 19 to the 100,000, and in the next 10 year period the mortality was practically identical in the two sexes. American statistics for the census year 1870 gave a mortality of females of 14 per 100,000 greater than the male mortality in the same year. With these exceptions the results that I have compared with my own have agreed in making both the actual number of male deaths, and the male mortality decidedly in excess of that for females.

Age: In considering the deaths by age from tuberculosis we will turn for a time from our statements of mortality to a consideration of the percentage of such deaths, in five-year periods, to the total number of tuberculous deaths, as shown by the curve in Figure 1. It will be noted that in proportion to

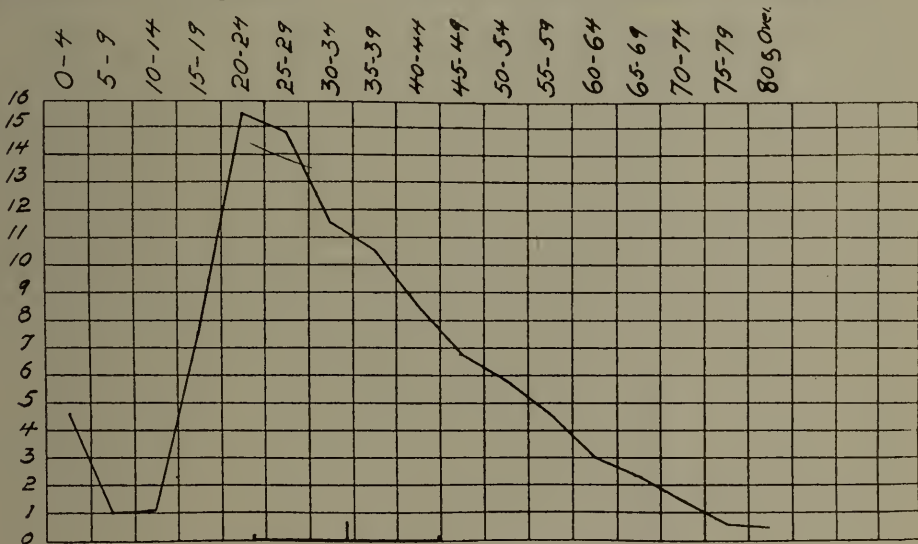


Fig. 1.
Percentage of Deaths from Tuberculosis by Age

the entire number of tuberculous deaths the first five years of life furnish 4.6% of the total deaths, that the percentage is lower between the ages of 5 and 15 years than at any period short of extreme old age; that the greatest percentage of tuberculous deaths is found in the five-year period 20 to 24, while beyond the age of 25 years the number of deaths gradually diminishes to almost zero in advanced life. Twenty-five percent of all deaths from tuberculosis occur at an age earlier than $23\frac{1}{2}$ years, and 25% occur later than 44 years, one-half of all the tuberculous deaths being found between these limits.

I introduce here as probably the most convenient place, Figure 2, with two curves. One of these gives the percentage

of deaths from tuberculosis in ten-year periods to the total deaths from that cause, the other gives the percentage of deaths from all causes *except tuberculosis*. The difference between the curves is striking. Of the deaths due to causes other than tuberculosis 45.2% are found in the first ten years of life, but in the next ten-year period the percentage drops to 4, and after that increases gradually but surely to advanced life. The suc-

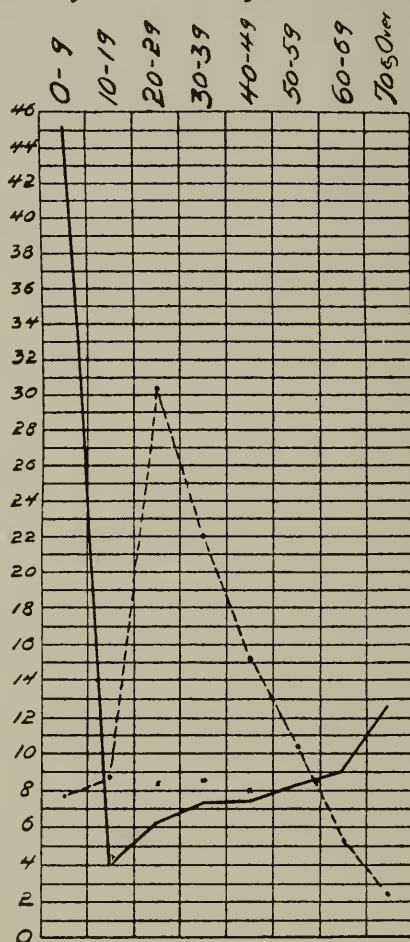


Fig. 2.

Deaths from All Causes Except Tuberculosis by Age —————
Deaths from Tuberculosis by Age -----

cessive percentages of deaths from tuberculosis in ten-year periods are 5.7%, 8.7%, and 30.3%, the last excessive death-rate being for the years between 20 and 30; later than 30 the percentage of deaths from tuberculosis by age to all deaths from this cause falls gradually to almost zero in advanced life. The one curve shows a marked minimum at the period of adolescence, the other a decided maximum in early adult life. The stars show the percentage of deaths from all causes including tuberculosis to deaths from all causes for the middle period of life, and indicate how greatly tuberculosis increases the number of deaths between the ages of 20 and 40 years.

Sex: Figure 3 bears two curves showing the deaths by age and sex in five-year periods as Figure 1 shows the deaths by

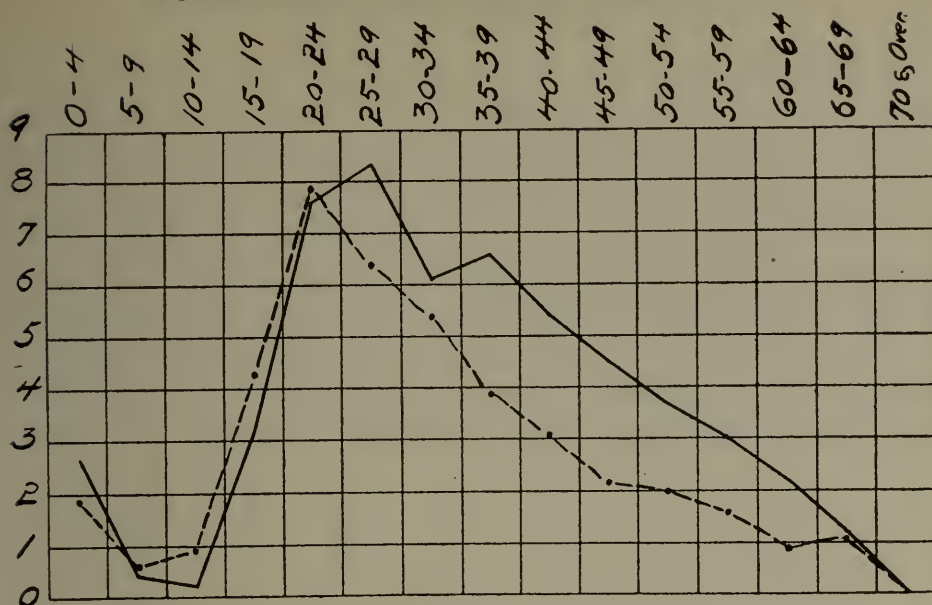


Fig. 3.

Male Deaths from Tuberculosis —————
 Female Deaths from Tuberculosis - - - - -

age alone. It shows again that male deaths are more numerous than female deaths, and further that this difference is most marked from the age of 25 years onward to 60, that in advance life there is practically no difference, and that the differences in early life are not marked.

As stated early in this paper, the average number of deaths from tuberculosis in the seven years under consideration, 464.7, is .13% of the estimated average population. It will be interesting to compare with this, the general mortality from tuberculosis, the tuberculous mortality at each age. Figure 4 shows

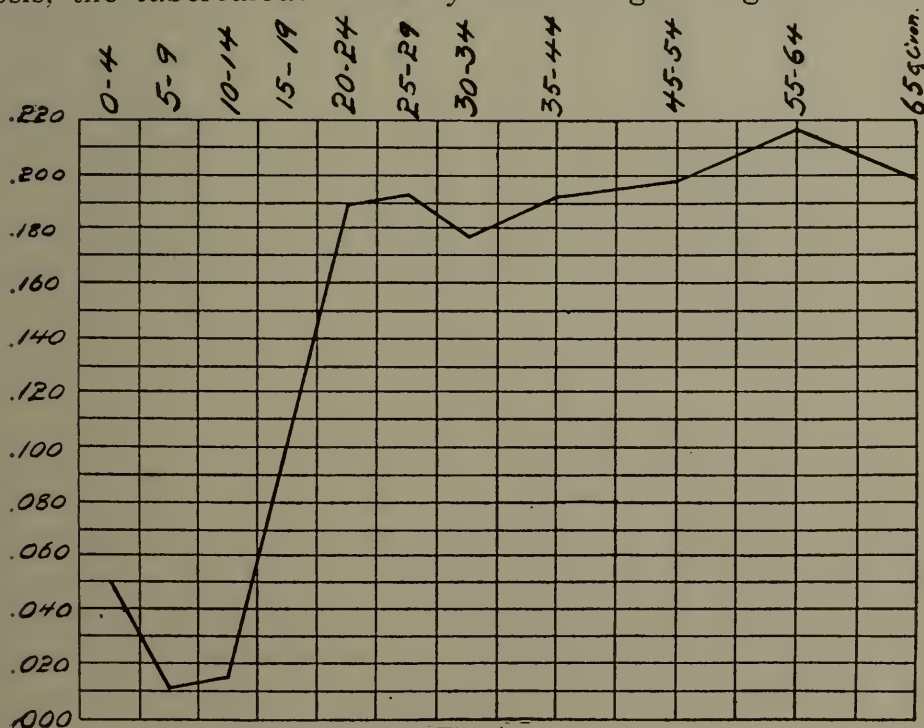


Fig. 4.

Tuberculosis Mortality by Age

these facts for the entire population, while Figure 5 contains curves showing them for males and for females. In the first five years of life about 50 die of tuberculosis in each 100,000 of the population. In the second and third five-year periods very few die from this cause, only 11 apparently to the 100,000, at the fourth period the deaths per 100,000 has jumped to 100, and in the fifth to 189 and then increases steadily but slowly to advanced life. These being the general facts for the tuberculous mortality by age without reference to sex, very marked differences between the sexes, as shown by Figure 5, must be noted. The male

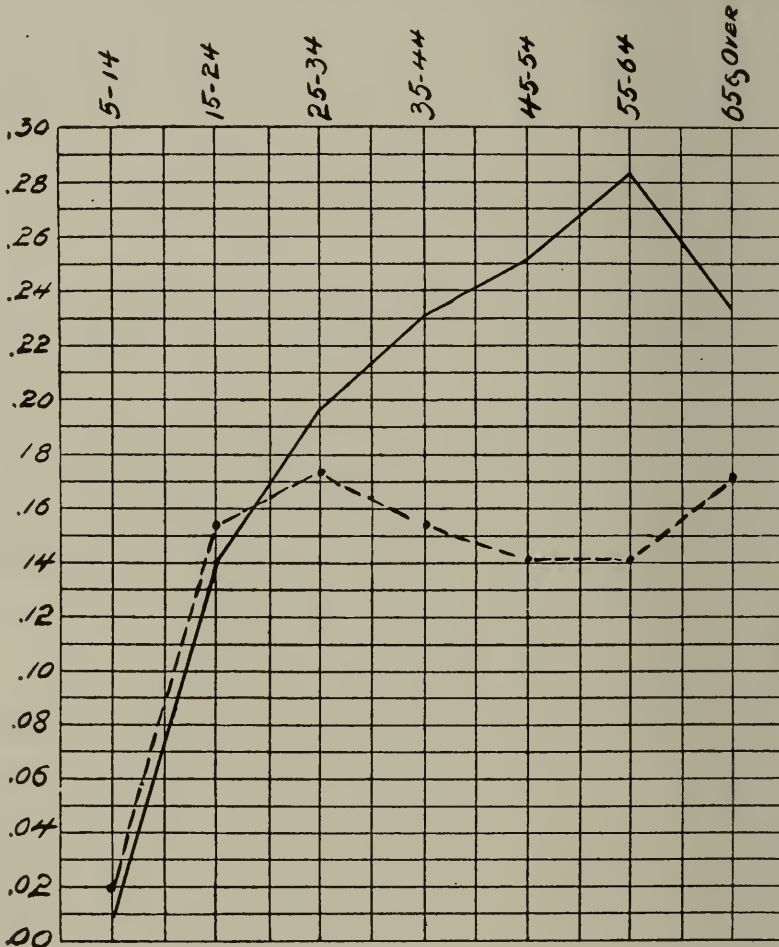


Fig. 5.

Male Mortality by Age —————
 Female Mortality by Age - - - - -

mortality increases steadily with age as does the general mortality, while the female mortality tends to remain quite constant after adult life has been reached. One would be inclined to attribute this difference, perhaps, to surroundings favorable for the occurrence of infection on the part of males, or of conditions less favorable for recovery after an infection has taken place.

Würzburg used in his work on this subject the official reports of the Kingdom of Prussia for the years 1875 to 1879 and determined the mortality from phthisis at each age for the entire population and for males and females. This gave him sufficient material to enable him to determine the mortality by year to five years of age; in five-year periods from five to 30 years; and in 10-year periods from 30 to 80 years. The highest mortality, both for males and females, was found between 60 and 70 years of age; the lowest between five and 10. There was a marked diminution in the mortality between 70 and 80, and above 80; the most advanced age had about the same mortality as the age of 20. As compared with the curve of Figure 4, that of Würzburg shows at each age a mortality two to four times as great as that of Cleveland, and a more gradual increase of that mortality to a maximum, which, however, is attained at about the same age, 60 to 70 in the Prussian result, 55 to 65 in that of Cleveland. The curve of male mortality from the Cleveland statistics, Figure 5, has the same characteristics as that of the corresponding curve shown by Würzburg, and is, indeed, more like his curves of total and female mortality than are these curves in our results. Lehman in a statistic study upon the mortality from phthisis in Copenhagen found that this mortality was at a minimum in males at 10 to 15 years, and in females five to 10 years, and then shows a gradually ascending curve, both for males and females to advanced life. Bertillon bases his study of the mortality in Paris upon the death reports of the years 1886 to 1890. He gives curves of mortality by age and sex which correspond in their general characteristics up to adult life with our curve in Figure 4, but differs from it in later life. The maximum mortality for males is attained in the period between 35 and 40, and diminishes progressively to advanced life. The female mortality up to 20 years of age is practically the same as the male mortality, but at all later ages it is decidedly less than the male mortality; its maximum also is attained earlier than that of males. Holti, in a total of 1,771 deaths from tuberculosis observed at Helsingfors, the capital of Finland, and its environs, shows a maximum mortality attained for both males and females in the 10-year period 31 to 40. The curve of female mortality drops continuously from this point, while the curve of male mortality remains at the maximum for 30 years, 31 to 60, to drop in later life. The most interesting thing in Holti's statistics is, however, the mortality given for the first two years of life. From birth to one year of age 2,850, and from 1 to 2

years of age 2,600 deaths from tuberculosis to each 100,000 of those living at these ages, as compared with 500 deaths per 100,000 in the 10-year period 31 to 40, which is his maximum mortality for adults. According to the findings of Würzburg and Bertillon their adult maximum is two to four times the mortality of the first years of life. From the Cleveland returns the writer finds it possible to give, as an estimate of the mortality of the first year of life, 678 to each 100,000. Our maximum adult mortality being 216 per 100,000 the mortality of the first year of life is rather more than three times as great. The correct relation between these ages is not, however, expressed by the statement three to one, for, as we have pointed out, the maximum female mortality for adult life is probably too small in our returns, and the maximum adult mortality without reference to sex is, therefore, too small. Such corrected results can only be arrived at by the use of a larger number of observations, and would in all probability show a mortality for children under one year of age greater than that of the ages 55 to 64 years, but less than three times that mortality.

Conjugal Condition: Clinical observers are very well agreed that the tuberculous should not marry. Marriage of tuberculous men is discouraged because of the danger of infecting the wife, and because the general good of the community demands that children should not be brought into the world with a tuberculous taint. The same reasoning opposes the marriage of tuberculous women, and, in addition, the conjugal condition, or at least the bearing of children, is supposed both to predispose to the infection and to hasten the course of the disease. It would seem, therefore, that one should be able with the data at our command to express statistically the unfavorable effect of marriage. The mutual relation of marriage and tuberculosis is not, however, so simple as it might be imagined to be, and I have made trial of every method of statistic expression that seemed to promise any hope of an unequivocal answer, without having found one that does so.

It would seem certain that if neither tuberculosis nor the conjugal condition had any effect on the other the mortality from tuberculosis, save for accidental variations, would be the same for the married and the unmarried. That if the conjugal condition, or some feature connected with it, as for instance for females the bearing of children, had an unfavorable effect, by increasing the liability to infection, or by diminishing the chances of recovery, the mortality of the married would be greater than

that of the unmarried. If, on the other hand, the conditions of life were more favorable among the married their mortality might be diminished thereby. Consideration must be given to another side of this subject, namely, that illness frequently changes the plans of those intending to enter the married state, and there can be no doubt that the tuberculous are frequently deterred from considering the question of marriage, or, having

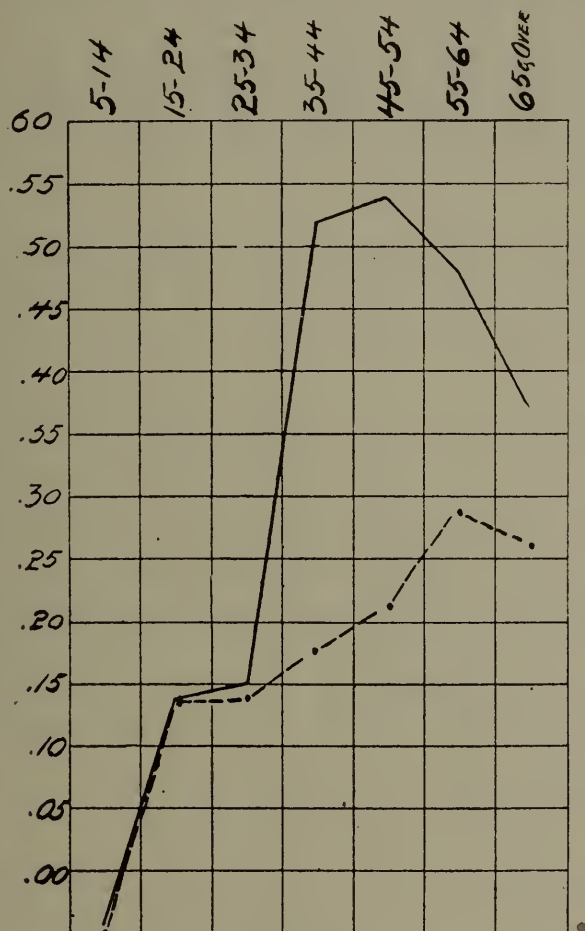


Fig. 6.

Male Mortality by Age and Conjugal Condition
 Single ————— Married - - - - -

decided upon it, are led to put it off awaiting a recovery which may never take place. If tuberculosis acts largely in this way to prevent marriage, a really-existing unfavorable effect of marriage upon those suffering from, or predisposed to, tuberculosis might not show in a statistic study.

Figure 6 contains curves showing the mortality of single and married males. Figure 7 contains similar curves for females. The mortality curves for males in Figure 6 are so uniform as to lead one to believe that they are essentially correct. The

irregularities, of the curves showing the mortality of single and married females are such as to make it probable that great accidental variations in the death of tuberculous women occurred during the years which this work covers, and that with more numerous observations the curves would be smoothed out. and, in all probability, would finally resemble more closely the curves for males. It is evident at a glance that the mortality of

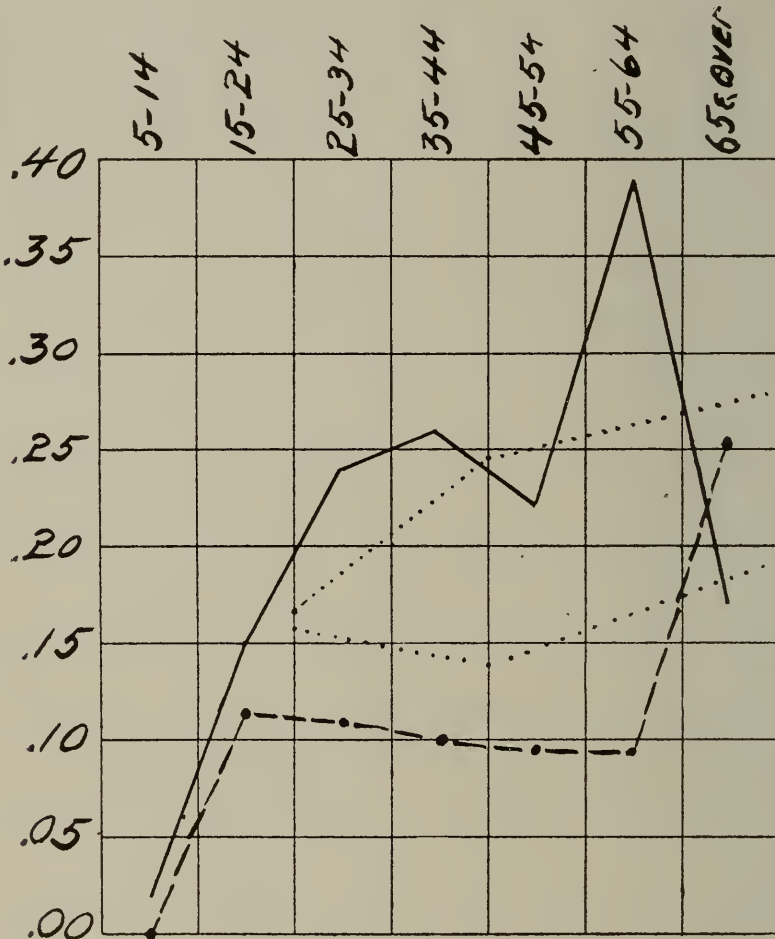


Fig. 7.

Female Mortality by Age and Conjugal Condition
 Single ————— Married

the single exceeds that of the married, and that this difference is greatest for males. "If you wish to avoid death from tuberculosis, get married" is a maxim to be most clearly derived from these curves, and to state this erroneous conclusion in words may suffice to clear the way for conclusions that are warranted by the facts. An undoubted relation between deaths from tuberculosis on the one hand, and the conjugal condition on the other, may certainly be accepted upon the showing of the curves. We have, however, argued in considering the various relations

possible between tuberculosis and the married state, that the only explanation for a smaller mortality in the married should be either more favorable conditions for avoiding infection or securing recovery, or an effect of tuberculosis in the prevention of marriage. It is scarcely conceivable that the married state is so favorable to recovery from tuberculosis as the mortality curves would indicate and the effect of the disease in preventing marriage must certainly be called upon to explain a large part at least of the differences found. It will be noted that the excess of deaths of single males over the married is much greater than the excess of the deaths of single females over their married sisters. It may well be that this relatively increased

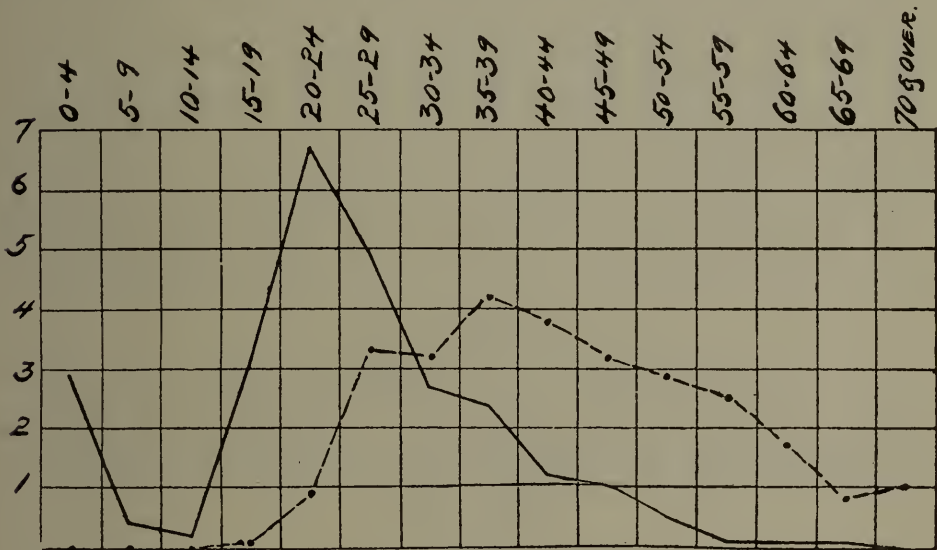


Fig. 8.

Male Deaths from Tuberculosis
 Single ————— Married - - - - -

mortality of married females represents an unfavorable effect of the conjugal condition.

Figure 8 gives curves which show the percentage of male deaths by age and conjugal condition to the total deaths from tuberculosis; Figure 9 gives similar curves for females. The differences between these curves are interesting. In each figure the highest point of the curves represents the deaths of the unmarried between the ages of 20 and 25, 6.7% of all deaths from this cause are those of unmarried males, while but 4.8% are those of unmarried females. The percentage of females who die unmarried of tuberculosis at ages greater than 25 diminish very rapidly as is shown by the drop in the curve at that point to 2% between 25 and 30, and more gradually from that age

onward. The percentage of deaths of unmarried males, however, diminished much more gradually, 4.9% of the total deaths from tuberculosis is that of unmarried males between the ages of 25 and 30 years, as compared with 2% in unmarried females. A part at least of these differences are explained by the fact that, practically speaking, marriages begin to be consummated between the ages of 15 to 25 years, at which time the largest number of deaths occur from tuberculosis, and that, on account of the earlier average marriage age of women, a very much

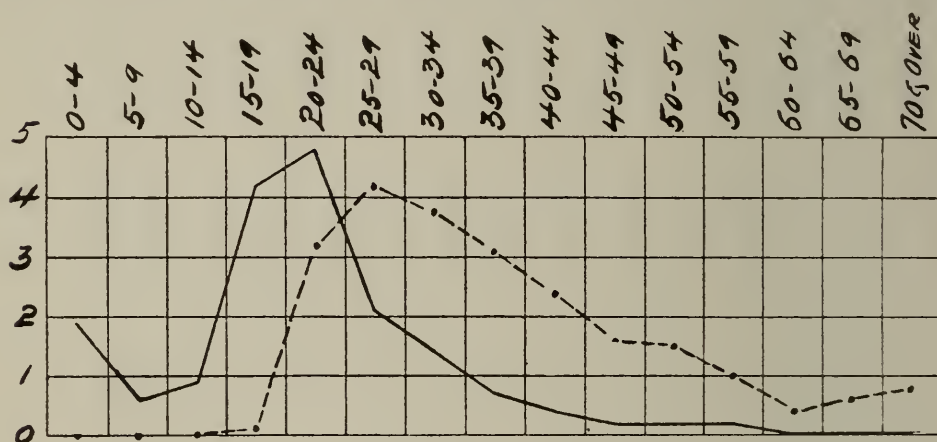


Fig. 9.

Female Deaths from Tuberculosis
Single ————— Married - - - - -

larger proportion of these are already infected at the time of marriage with this, the most chronic of the infectious diseases.

CONCLUSIONS

1. Tuberculosis in Cleveland furnished, during the seven years under consideration, 8.7% of the total deaths, 1.4% of the deaths between the ages of 20 and 25 years, and 2.6% of the deaths between the ages of 20 and 30 years. The mortality was 130 to each 100,000 of the estimated average population.

2. Fifteen and one-half percent of all tuberculous deaths occur between the years 20 and 25, 30.3% between 20 and 30, and 50% between 23½ and 44 years.

3. Four and nine-tenths percent of all deaths were male deaths from tuberculosis. Fifty-six and six-tenths of all deaths from tuberculosis were male deaths.

4. Three and eight-tenths percent of all deaths were female deaths from tuberculosis. Forty-three and four-tenths of all deaths from tuberculosis were female deaths.

5. In proportion to the total, the greatest number of male deaths is found between the ages of 25 and 29, of females between 20 and 24.

6. In proportion to the living population the greatest number of deaths occurs between 55 and 64 years. This fact is most noticeable in the curve of male mortality which, according to internal evidence, is a more nearly normal curve than that of the total mortality since the mortality of females in the seven years shows, apparently, great accidental variations, and when combined with the male mortality carries certain of its own characteristics into the general result.

7. From the complexity of the mutual relations existing between marriage, illness and death, we have in the consideration of the effect of the conjugal condition upon death from tuberculosis a problem of extreme difficulty. We can no more than infer from our statistic results that marriage increases the liability to death from tuberculosis, and that this is true in the female sex alone, or in that sex to a greater degree than in the male. There seems to be a very real relation between the existence of a tuberculous process and marriage, in that the condition under consideration has a very marked tendency to postpone or prevent individuals so affected from entering the married state.

The Distribution of Tuberculosis in Cleveland

BY WM. O. OSBORN, M. D., and FREDERICK C. HERRICK, M. D.,
CLEVELAND

As an aid to studying the distribution of tuberculosis in Cleveland, all the cases of tuberculous disease in the past seven years were gathered from the City death reports and arranged in a card catalog. As a means of roughly determining what sections, streets and neighborhoods showed the greatest number of such cases, we had a map made, each house being represented by a dot, the position of which within the blocks could, of course, be only relatively determined. The numbers on the long streets were located by aid of the directory, and when in doubt, by finding corner numbers of cross streets. This is fairly accurate and does not change the absolute results appreciably. The map was made independently of any consideration of ward boundaries. After this the number of cases per ward was counted from the cards and compared with the population per ward. These two methods coincide in showing the following to be districts with the largest number of cases:

The section bounded by Franklin avenue, Taylor street, Pearl street and the lake :

	Population	Deaths from Tuberculosis During 7 Years	Deaths per 1000 of Population per Year
Ward 28	4330	32	1.05
Ward 29	5143	60	1.66
	<u>9473</u>	7) <u>92</u> = 13.1 per yr.	<u>2.71</u> per yr.

The section bounded by the river, the lake, Muirson street, Superior street, from Muirson to Seneca, thence south to the river, including the section commonly known as "the tenderloin" :

	Population	Deaths from Tuberculosis During 7 Years	Deaths per 1000 of Population per Year
Ward 3	2141	44	2.93
Ward 4	5279	61	1.65
	<u>7420</u>	7) <u>105</u> = 15	<u>4.58</u>

The lake shore section, bounded by Muirson street, Superior street to Willson avenue to St. Clair street, thence to the city limits and the lake :

	Population	Deaths from Tuberculosis During 7 Years	Deaths per 1000 of Population per Year
Ward 5	6336	42	.94
Ward 8	6985	62	1.14
Ward 9	13852	127	1.40
	<u>27173</u>	7) <u>231</u> = 33	<u>3.48</u>

The "Haymarket" section, bounded by the river from Huron to Cross streets and east by Erie street :

	Population	Deaths from Tuberculosis	Deaths per 1000 of Population
Ward 1	7902	7) <u>103</u> = 14.7 per yr.	1.86 per yr.

Ward 2, the retail business section, bounded by Superior, Seneca, Huron and Muirson streets, shows 1.7 deaths per year per 1,000 in a population of 2,938.

Ward 11, bounded by Euclid avenue, Perry street, Woodland avenue and Brownell street, shows 1.62 deaths per 1,000 per year in a population of 3,798.

Ward 24 has had the largest mortality from tuberculosis. It lies on both sides of Broadway from Kingsbury Run bridge to Willson avenue and Hamm street.

	Population	Deaths from Tuberculosis	Deaths per 1000 of Population
Ward 24	6341	7) <u>174</u> = 25 per yr.	7) <u>28.07</u> = 4.01 per yr.

(1) These facts show the greatest number of cases to be in those sections characterized by being down-town, *i. e.*, within $1\frac{1}{2}$ miles of the Public Square.

Within this radius 33% of the deaths from tuberculosis have occurred, while about 24% of the entire population lives

within this limit—a death rate of 1.37 per 1,000. Within the two-mile radius there have been 2.28 deaths per 1,000 per year. The population of this area is (148,274) 37% of the entire city population, and 77% of the deaths from tuberculosis have occurred within this radius.

(2) The houses are old, having been occupied by changing tenants for from 20 to 60 years, often out of repair, and the system of open sewers and privy-vaults is quite prevalent.

(3) The worst of these sections include manufactories or railroad tracks, where large amounts of soft coal are burned, *e. g.*, "The Triangle," "The Tenderloin" and the Lake Shore railroad and manufacturing district, and the "Haymarket" district, extending down to the Flats. (These combined show 2.02 deaths per 1,000 per year.) They are inhabited by the laboring classes, comprising people of all nationalities, living in their respective neighborhoods or streets in crowded quarters, engaged in exhausting labor, and both working and sleeping in unsanitary surroundings.

In these sections the air contains large amounts of irritating gases and solids, which cause and aggravate catarrhal conditions of the respiratory tract, and these catarrhal conditions, it is acknowledged, furnish the most favorable acquired soil for the growth of the tubercle bacillus; moreover, this class of people pays very little attention to minor ailments, to which the onset of tuberculous disease is so frequently traceable. In these sections the impurities in the air from incompletely consumed coal are sulphur, occurring as the gas, sulphurous acid, carbon pure, as soot or as carbonic acid and ammonia gas.

The following analyses of the air of some of the sections of the city were made by Professor Charles F. Mabery of Case School. The sulphurous acid gas is expressed in grams of sulphuric acid per million cubic meters of air. The carbon (soot) and ammonia gas are expressed as such in grams.

Grms. SO ₂ per million cu. m. air, as	H ₂ SO ₄	N H ₃
Case School Campus,	23414	106.35
McHenry street (Superior street, above Case)	41750.5	1059.6
Rockwell street	47297	349.2
The Flats,	50351	
Pearl, near Franklin,	56559	384.3
London, England,	{ 1669.9	
Manchester, England,		
	2433.7	

Sulphurous acid in the air is usually found impregnating soot as gas, or in the form of sulphuric acid and is capable of setting up a catarrhal inflammation in the respiratory mucosa

or aggravating such a condition already existing. It is an open question whether even the cold damp winds from the lake cause an equal damage to the respiratory tract. It will be noted that London and Manchester, England, the metropolis and largest manufacturing city of England, might be expected to have as smoky an atmosphere as Cleveland, but the above figures show the air here to have 25 to 30 times as much sulphurous acid as found in those cities. A partial explanation of this may be found in the fact that English coal contains much less sulphur than American coal. In this atmosphere our laboring class works, and sleeps in one much worse. The air inside these houses during the cold months is bad, the result of having been breathed over and over again until most of the available oxygen is taken from it, and the excretion products of the lungs have accumulated in it. In many of these rooms, especially those of the mill workers, from two to six people sleep at night, and when off to work the room is occupied as a sleeping apartment by an equal number of night laborers who sleep during the day. The windows are kept battened up in winter, ventilation being a thing apparently not thought of.

It has been impossible to get the exact population of these various sections because most of them overlap from one ward to another. We relied on two methods of comparing the population of the various sections of the city, one by wards, and the other by one and a half and two-mile circles from the Square. By wards we find the 1, 2, 3, 4, 11, 24 on the east side of the river, the 29 on the West Side, each to have had more than 1.5 deaths per 1,000 of population. The two worst wards are the Third (3) with 2.93 deaths per 1,000, and the Twenty-fourth (24) with 4.01 per 1,000, or without the 24 cases of St. Alexis Hospital, 3.37 per 1,000. These wards have also a population of 33 to 51 people per acre. As opposed to this, wards 19, 23, 25, and 27, with the least number of cases, to be spoken of later, have a population from 13 to 17 per acre. These wards illustrate (with the exception of the 24) the above four points, *i. e.*, they are down-town, old residence and manufacturing sections, inhabited by our laboring classes and including a large part of our foreign population. The best wards, on the contrary, are those outlying, and, with the exception of wards 23, 25 and 27, are populated by well-to-do people and those of American birth. These are wards 18 and 19. They have the largest population of any two wards in the city, *i. e.*, together 46,555. The park system passes through ward 19 so that there is a large area per capita. These two wards

are up-town, remote from manufactories and railroad tracks. They have been comparatively recently built up, and as just stated, are occupied by the more well-to-do classes. These wards had a death-rate from tuberculosis below .85 per 1,000 per year. Ward 21 parallels them on the south, extending out to Lake View Cemetery, and is also traversed by the Boulevard. This ward had a death-rate of 1.08 per 1,000 per year. The ward includes the Italian settlement where 22 deaths are reported, the deduction of which would reduce the number to .85 per 1,000. This section extends to Quincy street, which includes quite a laboring and foreign population. The next wards having 1 to 1.5 deaths per 1,000 are wards 6, 7, 8, 9, 12, 13, 16, 30, 31, 33, and 34. These are all, except wards 30, 31, 7, and 9, within the 1½ mile radius and are all more or less manufacturing or railroad sections.

In order to locate individual houses or neighborhood infection, the following question, among others, was sent to about 70 physicians whose practices take them more or less into the above mentioned sections.

“The following residences show more than one case of tuberculosis reported as going to hospitals, or dying during these seven years. (Here streets and house numbers were given.) Can you give us any particulars with reference to these residences or any others in the field of your practice that might illustrate the spread of the infection by means of the former residents, or by means of the patient’s own family or neighbors?”

We were late in sending out these inquiries and for that reason only 35 replies were received. These answers corroborated the findings which a personal inspection and occasional house inquiry had yielded, namely that it is very difficult to show direct house, family or neighborhood infection. In the first place it is hard to determine in the case of a family whether the two or more cases illustrate infection from one to another, or simply the family’s susceptibility to tuberculosis. Secondly, the population in many of these districts is a shifting one and hard to follow. Thirdly, the sanitary conditions in and about the houses are either so bad as to make it seem that they were the larger factor in determining the incidence of tuberculosis, or they are so good, as regards elevation, drainage, exposure to sunlight, etc., as to make it seem probable that the incidence of the disease was due rather to a peculiar susceptibility to the germ, than to any special local infectious conditions.

The following statements are culled from the replies received:

"In or about 1890 I advised the Health Department to buy and destroy by fire, a house on Trumbull street (location can be given more accurately) where nine persons died in about six years."

"A residence on Humboldt street is an instance. The disease has existed in that house 18 years. Two have died. A living patient has had three operations for tubercular glands of the neck."

"On Douse street tuberculosis was communicated to two dogs and one cat that died, while the patient still lived."

"On Wheatland avenue a very marked case of tuberculosis occurred where a girl contracted the disease from washing rags containing sputum, and communicated it to a baby for which she was caring."

"On Belden street a mother had chronic phthisis; her daughter developed acute phthisis and died in seven months, five weeks before the mother's death. This occurred years ago. There have been no developments since."

"On Luther street one son died of tuberculosis. At present the other son has a chronic cough which I infer is due to tuberculosis. There is no history of tuberculosis in his parents."

"An Orange street house was occupied by a phthisical patient who had repeated hemorrhages and bacilli in the sputum. The house was sold and a woman who occupied the same downstairs rooms and was perfectly well before, developed tuberculosis with hemorrhages from the lungs."

Further questions asked of practicing physicians with report of their replies are as follows:

2. "After diagnosing pulmonary tuberculosis are you in the habit of advising your patients as to the disposal of the sputum, the importance of ventilation and drainage, and in general as to the maintenance of proper sanitary conditions?" Replies: Yes, 34. No, 1.

3. "Do you think such educational work should be left to the family physician, or can it be better undertaken by the Health Department?" Replies: Family physician, 10. Health Department, 9. Both combined, 19.

4. "Would you favor reporting cases of pulmonary tuberculosis to the Health Department, not with the idea of quarantining or otherwise making public such cases, but that the Health Department might co-operate with the family physician in edu-

cating the people as to the nature and mode of transmission of the disease, in improving the sanitary conditions in and about the house, in furnishing sanitary spit-cups and in disinfecting after the death of a tubercular patient?" Replies: Yes, 34. No, 2.

5. "From your experience do you think that a considerable proportion of tubercular patients would voluntarily go to a hospital, properly located, for the care of such patients?" Replies: Yes, 24. No, 4. With qualifications, 8.

From these replies it is evident that the profession is awake to the necessity of precautions against the spread of tuberculosis. It would seem that the profession is divided as to the best means of accomplishing the education of the masses by tuberculosis, whether by the family physician, the Health Department or both. The evidence favoring the reporting of cases of tuberculosis to the health authorities far overbalances opposition to this procedure. No conclusion can be reached regarding the question of sanatoria from the standpoint of the patient.

In conclusion, we wish to draw attention to the following facts:

I. Certain districts of this city show a mortality from tuberculous disease much above others.

II. These districts are (1) old portions of the city; (2) within $1\frac{1}{2}$ miles from the Square (except Ward 24); (3) in or near manufacturing or railroad districts; (4) those occupied by our laboring classes.

We believe this to be due to (1) the unsanitary conditions in which these people work and live; (2) to their ignorance of and indifference to minor ailments, and especially their ignorance of the causes and early signs of tuberculosis.

Though we do not contend the likelihood of there being such, yet we have not discovered any considerable number of house infections.

Municipal Prophylaxis

BY MARTIN FRIEDRICH, M. D., CLEVELAND

Municipal prophylaxis against tuberculosis is general prophylaxis applied to a locality. We have to do with the germ and its victim, Koch's bacillus and the human race. Since the earliest existence of history humanity has been the sufferer practically without retaliation, and before Koch's discovery intelli-

gent measures against this dangerous foe were hardly possible. Now that the conflict is being waged in all civilized countries, what can we do here in Cleveland? Let us look over the ground and survey the advantages and disadvantages under which we are working.

1—OUR NATURAL CONDITIONS

The city is built on dry, sandy soil with a natural drainage which is excellent. The atmosphere is neither too dry nor does it contain a superabundance of moisture. We have plenty of sunshine and fresh air. The climate has the undesirable feature of sudden changes which are especially marked in the spring and fall of the year. In conclusion, then, the telluric and atmospheric conditions are in our favor, and the disadvantages of the climate can be overcome by intelligent dressing.

2—ARTIFICIAL CONDITIONS

Cleveland is a manufacturing center. A cloud of smoke hovers over the city continually and this smoke, when inhaled for any length of time, causes anthracosis of the lungs with, possibly, resulting pleural adhesions. Moreover, the great clouds of dust that float through the air, consisting largely of pulverized sand and horse-manure, may readily cause pneumokoniosis, and open the portals for the entrance of tubercle bacilli.

While our natural conditions are, therefore, favorable, our artificial conditions are against us. But these can be changed.

First of all, we must insist that smoke-consuming devices be applied to every furnace in the city; that all our streets be properly paved, and the pavement kept scrupulously clean.

Second, we must consider the schools. We gather children by the thousands and put them into basements, where the poor little things, for want of sunshine and sufficient light and oxygen, lose their buoyancy, ruin their constitution and grow pale, anemic, emaciated, and become candidates for tuberculosis and early graves.

The basement schools must go. We as a profession must insist upon it. It is a civic duty that we owe to the younger generation.

We must also supervise our shops, especially those in which polishing is going on, where a great amount of fine dust is produced, which, when inhaled, causes pneumokoniosis and predisposes to tuberculosis. It is our duty to see that devices are installed which either carry the dust away from the work-

room or prevent its entering the lungs. The same precaution should be taken where wool is sorted or rags picked over.

We should, also, oversee the cheap lodging houses downtown. Their terrible overcrowding, with consequent filthiness of rooms and bedding, and with all kinds of vermin crawling about, make them a continuous menace to the public health. All kinds of diseases are bred in and spread from them. In certain quarters of the city we will have to look after the dwelling-houses, for often a dozen families are crowded under one roof where there is scarcely room for two.

These general measures are of the utmost importance, as at the present time the germ of tuberculosis is almost ubiquitous, and our main weapon with which to combat it consists in fortifying the human system against it.

While, on the one hand, we must endeavor to increase the vitality and resisting power of the human race, we must, on the other hand, turn our attention to the tubercle bacilli themselves, and try to destroy them. Our knowledge of this germ justifies us in saying that one of its main breeding places is in the human lungs, and that it reaches the exterior by being coughed up with the sputum. If we could gather all tubercular sputa and destroy them we could practically destroy all the tubercle bacilli. It seems, at present, impossible to accomplish this end, but future generations may do what today we would deem Quixotic. We must institute a campaign of education among the laity against promiscuous spitting. The majority of educated people can, I think, be easily brought over to our side, and even admitting that we cannot accomplish it with the ignorant classes, we can, at least, teach their children. It is my opinion that we should enroll all the school-teachers in this campaign. They ought to be instructed in bacteriology. We should make it the duty of the city bacteriologist to give them a yearly course in this branch of modern science, and make it obligatory for all teachers to take the course. I find now that teachers are of great help to the health office in the prevention of contagious diseases. They would take a deep interest in the subject and their teaching would soon show results. We should also enroll the clergy—they are all instructors of mankind and have the common good at heart,—and last, but not least, we should instruct the newspaper men. By giving free courses in bacteriology in our city laboratory, we could disseminate a vast amount of knowledge concerning tuberculosis, its real and imaginary dangers and the best

methods for preventing its spread. Remember that no one will interest himself in a subject before he has convinced himself of its importance. It would mean a losing fight to leave the whole combat to the medical profession alone. The subject is too many-sided for us. We cannot cope with it. No staff of generals, however good, has ever won a battle without the common soldiers. We need the soldiers, the more the better. When public opinion once becomes thoroughly aroused to the magnitude of this subject, questions which puzzle us now may be more easily answered.

I should like to put some of these questions before you. Shall we allow a tubercular teacher to enter the school-room, or the tubercular preacher to mount a pulpit? Shall we allow a consumptive to run a milk-wagon, or to handle milk in any shape or manner, or serve in a grocery store, or hand out bread from a baker's shop, or work in an enclosed room with other people? All these questions confront us. In answering them we must not only look on the theoretic but also on the practical side. We all agree that tuberculosis is an infectious and communicable disease. Shall it be reported to the health office? Boards of health are usually in favor of reporting such cases, while doctors and patients are against it. I think the middle way would at present be more profitable, namely: Report the cases to the health office for the sake of the records alone. The health department should prepare and have printed instructions for tubercular patients, telling them how to take care of the sputum, etc. These instructions should be handed out to the physicians and they should distribute them to their patients and see that the necessary precautions are taken, and call in the health department when it is thought necessary.

The hospital treatment of consumptives is now being taken up in Ohio, and we are eagerly waiting for a report from the committee appointed for this purpose. What we need here in Cleveland is a municipal hospital for our incurable consumptives, who are too poor to support themselves and need the aid of the city. By removing them to the hospital, we remove a great danger not only from their families, but also from the public at large. To treat them under the same roof with other patients, means danger to these patients.

Abstract of Proceedings of the Section of Experimental Medicine of the Academy of Medicine

At the first regular meeting, held on October 31, the following papers were presented: First, Prof. F. H. Herrick on the "Nature and Origin on Animal Instinct."

The author discussed the development of the various forms of organic reactions from the simple type of adaptive response to conscious and intelligent acts.

Second, Dr G. W. Crile, "Experiments on the Effect of Strychnin and Adrenalin in Shock, with Demonstration of Tracings." Preliminary experiments showed that the essential lesion of severe surgical shock is in the vasomotor centers, the respiratory and cardiac centers being but little affected. The term "shock" as used at present, probably covers a number of very different conditions, and for this reason the author proposes to restrict the term to those cases in which there is a paralysis or profound depression of the vasomotor center, so that it does not respond to reflex stimulation. The dangers of shock are incident to a fall of blood-pressure below the limit compatible with life. The treatment of the condition must therefore resolve itself, in the first place, into the raising of the arterial pressure. Various measures were tried for this purpose. The experiments were made on anesthetized, and in some cases curarized dogs with the mercurial manometer. The drugs were injected intravenously.

Strychnin: Small doses had no perceptible effect on the blood-pressure. Large doses caused a considerable and often prolonged rise of blood-pressure. This result occurred only when tetanic doses were given, although it was not dependent upon the convulsion, for it occurred also in the curarized animals. This rise was, however, always followed by a great fall from further paralysis of the vasomotor center.

From these experiments it is concluded that ordinary therapeutic doses of strychnin have absolutely no effect in shock. Tetanic doses may cause a temporary improvement, but their final effect is detrimental.

Adrenalin: This caused a very efficient rise in the pressure in all cases. As the action is very short the drug has to be injected continuously, when the rise may be sustained for hours. A decapitated animal could in this way have been maintained alive (with artificial respiration) for over 10 hours, but the animal died from the accidental entrance of air into the circulation. This method of

treating shock holds out some promise of success, but needs more thorough investigation.

The discussion by Drs Sollmann, Bunts, McGee, Lowman, G. N. Stewart, and Moorehouse, relates to the bearing of Dr Crile's researches on the use of strychnin in internal diseases, on the general problem of antidotes, on the various kinds of shock, and on the coincidence of the effects of strychnin on the medulla and cord.

Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

Pleurisy: Dr Frank Delafield in the *American Journal of Medical Sciences* for December states that the objection to the ordinary medical treatment of pleurisy is the intolerable length of time during which the patient remains ill. While deaths are few, two months is an ordinary duration, while six months is not uncommon, and he is now thoroughly impressed with the idea that aspiration is the only treatment needed for pleurisy with effusion, and is to be used not simply to remove fluid from the chest, but to cure pleurisy as a morbid process. This means that it is to be performed as soon as the presence of fluid in the chest is made out. In 200 hospital cases so treated none of the patients died, none were injured by the operation, and in none of them was the chest infected. The character of the fluid removed seemed to make no difference with the result, the cases with bloody or turbid serum doing as well as those with clear serum. In private cases the results are better than in the hospital. In fortunate cases within 24 hours after one aspiration there is no more fluid, and no more pleurisy. In a large number of cases the pleurisy is cured within one week, and none of them ought to be ill longer than two weeks.

Mercuric chlorid: H. C. Wood, Jr., reports in *American Medicine* for December 27, 1902, a case of corrosive sublimate poisoning from a vaginal douche. In recent years, the routine use of bichlorid douches has largely gone out of vogue for parturient women, and there has been a consequent reduction in the number of cases of corrosive sublimate poisoning. Dr Wood states that he has been able to find but two recorded cases of intoxication by this poison from vaginal injections not used for obstetric purposes. In Dr Wood's case the strength used was 1 to 2,000 solution for the relief of leukorrhoea, and the serious condition following its use shows very clearly that the vaginal mucous membrane, even in a condition without such lacerations as are found after labor, is capable of absorbing sufficient corrosive sublimate to cause toxic symptoms and the use of such douches,

especially when carried out at home, is not free from danger. Aside from the danger to the patient a virulent poison like mercury bichlorid, in the hands of the uneducated laity, imperils the lives of the whole household, the author of the paper having seen a case of such poisoning ending fatally in the husband of a woman who had been given these dangerous antiseptic tablets. Marshall has recently stated in the *British Medical Journal* that nearly all the fatal cases from the sublimate injections have followed its use as a uterine injection, although toxic symptoms have arisen when used in the vagina alone. He asserts that it is not so much the strength of the solution used as the total amount injected into the uterus which is the danger.

Formic aldehyd: W. G. Shallcross in the *Philadelphia Medical Journal* for December 13, highly recommends the use of the inhalation of formic aldehyd in the treatment of tuberculosis of the lungs. The fluid which has given him the most general satisfaction consists of equal parts of 40% commercial formaldehyd and 95% alcohol. Chloroform, creosote, oil of gaultherium, guaiacol, etc., may be added when desired. About 50 cc or 12 drams will last for two or three months in the apparatus he uses. He advises using it in the aggregate, two or three hours each day, from 15 to 30 minutes at a time. Patients readily take to it and enjoy its effects. He concludes that as a therapeutic adjunct in the treatment of pulmonary tuberculosis formic aldehyd possesses certain distinct advantages. It is a gaseous substance, and is the most powerful chemic disinfectant known, and the nearest approach to a pulmonary antiseptic we have. It is a stimulant nontoxic and does not irritate the respiratory tract when administered in the proper manner. It lessens the absorption of toxins, reduces pyrexia, relieves nervous symptoms and night sweats, and sharpens the appetite. The cough is lessened by its property of liquefying and rendering more mucous the secretions, and by relieving the irritation of the pharynx and larynx. A 2% solution of formalin in glycerin is of value in follicular tonsilitis as a local application, but Zdekauer in *American Medicine* recommends the use of a cotton swab saturated with formalin in diphtheria. Dr S. Sollis-Cohen however states that he has used this application, and while a few cases of diphtheria were cut short, the application was devoid of benefit in the majority of cases. He found it to be very painful, but the distress passed off shortly.

Beta Eucaïn: Marcinowski, in the *Deutsche Zeitschrift*, reports that in minor surgery especially local anesthesia by means of beta eucaïn is preferable to that by cocain or to freezing with ethyl chlorid. He concludes that beta eucaïn is absolutely non-irritating, and when not so the solution is too strong or not correctly prepared. The addition of sodium chlorid in the proportion of .6% for the stronger and of .8% for the weaker solutions is recommended, as well as using the solution of the body tempera-

ture. It is far less poisonous than cocain, while its anesthetic action is about the same, and by keeping within the limit of 5% concentrations, swellings and infiltrations of the injected area may be largely avoided. The concentrations and dosage recommended are: In ophthalmology 2% by instillation; in urethra and bladder 2% up to two ounces; in the nose and pharynx and on the mucosæ and wounds 5 to 10%, and in dentistry 2 to 5%; for infiltration anesthesia 1-1000 to 1% or 2% as much as required. For regional analgesia 2 to 5% up to 4½ grains.

Methylen Blue: Drs J. T. Morrow and W. C. Allison in the *Medical News* for December 6, 1902, coincide with Thayer as to the relative value of the methylen blue and quinin in malaria. They conclude that the methylen blue will destroy malarial parasites in many cases, but is less certain than quinin. It is probably most valuable in chronic cases, but has no advantage over quinin, while its effects are ordinarily more unpleasant than those of quinin. It is useful in cases that cannot take quinin. Its use in cases of pregnancy is undetermined. It is probably valuable in treatment hematuric and hemoglobinuric fevers on account of its diuretic action, though this is yet to be determined. They believe that quinin is quicker and much more certain, and would rely upon it rather than upon methylen blue.

Autointoxication: Dr J. C. Hemmeter in the *International Clinics* (Vol. 11, Twelfth Series) asserts that intestinal auto-intoxications are most effectively treated by prophylactic measures, diet, evacuation of the gastrointestinal canal, rest, and restoring the digestive tract to normal functioning after an exact diagnosis has been made. He states that the human intestine is provided with a natural means of disinfection which is often injured by the very agents that we use to destroy the bacteria. Not only may antiseptics do harm by destroying this intrinsic protection of the intestine, but their toxic properties may reduce the resistance and the healing tendency of the living cells. Only those intestinal antiseptics should be considered which are not soluble, and cannot be absorbed from the upper part of the digestive tract, and therefore stand some chance of reaching the lower intestinal districts where the putrefaction is most intense. Derivatives of formaldehyd, calomel, menthol, bismuth compounds, preparations of salicylic acid, salol, tannin, betanaphthol, etc., are of value. There are certain remedies which seem to exert a special influence on special intestinal fermentation and putrefaction. Brewers' yeast and small quantities of Neufchatel or Swiss cheese are recommended. The author has found that ichthyol and menthol are of aid in urticaria from eating strawberries, and indigestion after partaking of crabs or fish, hydrochloric acid in cases of *achylia gastrica* and whenever there is absence of free HCl, and salicylic acid in doses of eight grains largely diluted in gastric dilation with distention and flatulence, and calomel for obese patients with enlarged liver.

The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and
THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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EDITORIAL

In Re the City Bacteriologic Laboratory

In the January issue of the JOURNAL we had occasion to express our appreciation of the work being accomplished by the City Bacteriologic Laboratory, and we are delighted to record again our hearty approval of the results which have been accomplished largely through the efforts of Dr Howard, the City Bacteriologist.

The occasional exploitation in the daily press of the work being done by the Laboratory is, however, a great misfortune, and must tend to discredit work which should, indeed, merit only honest approval from everyone interested in scientific medicine and scientific sanitation.

It is most unfortunate that the press should possess ways and means not only of getting at facts, but of publishing the names of those responsible for the work being done in a way wholly unauthorized by the Laboratory and in direct contravention to the canons of scientific medicine. If such things are possible we shall lose not only our caste among cities but, more vital even than this, the unselfish interests of those men who are giving so freely of their time to the best interests of the city at large.

Tuberculosis in Cleveland

The papers presented in this issue of the JOURNAL are an interesting exposition of the situation in Cleveland as regards the prevalence, distribution and mortality from what has been well called the "white plague."

When we consider the extraordinary mixed character of our population, and the fact that each nationality represented must go through a more or less slow process of acclimatization, the results given are surprisingly favorable. The evidence from the attempt to trace a definite house infection from one individual to a subsequent occupant is sufficiently suggestive of the tremendous possibilities for such infection, especially where individuals are not properly instructed in the care of the sputum, etc.

Not the least interesting fact brought out by this series of investigations is the demonstration that the atmospheric air of Cleveland contains more sulphurous acid gas than that of London or Manchester, Eng., the latter city being a far more closely settled community, and with quite the same tremendous manufacturing industries which constantly pour forth their dirty streams of smoke.

With the knowledge which these investigations have given us, we are in a position to deal intelligently with the control of tuberculosis in Cleveland, and it is to be hoped that the efforts so generously put into this labor may bear a rich harvest.

Inoculation Against Typhoid Fever

During the British campaign in South Africa the medical department of the English Army had abundant opportunity to test the efficacy of preventive inoculation against enteric fever; a method of prophylaxis which has been followed up by English workers on a very much larger scale than has been possible in this country.

The tabulated results of this method as employed during the late campaign in the Yeomanry Hospitals have been published in England in the volumes entitled "The Imperial Yeomanry Hospitals in South Africa, 1900-1902." Though this work is not available, we publish the following figures on the authority of the English *Spectator*. The results achieved it will be seen are not striking or convincing, but are indeed sufficiently interesting to warrant more than a passing notice.

The average mortality of the enteric cases was about 13%, a

mortality which compares very favorably with the mortality during our own late war.

Taking all the hospital cases together there were 129 inoculated cases with nine deaths, and 556 noninoculated cases with 61 deaths, a mortality of 7.4% in the first instance as against 10.9% in the unprotected individuals. As to the protection afforded against attacks by preventive inoculation among the Staff, the figures given are as follows: Among 244 inoculated individuals there were 24 attacks and among 157 noninoculated 23 attacks, or 11.4% against 16.4%; surely not a marked difference and not as reassuring as one would wish.

As emphasized by Dr Washburn, the fact that second attacks of typhoid do occur throws some doubt upon the soundness of the theory of preventive inoculation. We must not only be able to render the human organism immune for a definite period against the active virus, but we must find some means of determining just how long, in any given individual, the protection afforded by inoculation lasts.

“A Side Light on Ethics”

In the issue of January 3 of the *Journal of the American Medical Association*, a letter appeared under the above heading which presented in an unusually clear way the absurdly false situation which prevails as regards the practice of medical ethics in America today. With a view to at least arousing interest in this question, we take the opportunity of again calling attention to this delightfully honest statement of the case, in the hope that those who have overlooked this interesting letter may hunt it up “read, learn and inwardly digest” with pleasure and with profit the points emphasized.

That it is, unfortunately, a true arraignment of those flagrant violations not only of the law but of the spirit of the Code of Ethics must be admitted; and it is perhaps small comfort to a host who have suffered to know that others have shared equally the bitterness of such thoughtless and unchristian rebuffs.

The whole tendency of human nature is toward self-preservation, which is but right and natural; and in the face of the attitude so frequently assumed by our superiors in the struggle for existence, and above all else for a fair name and honor among men, is it strange that the instinct of self-defense so often forces a reaction comparable to that demonstrated by the immutable laws of physics?

The danger lies, it seems to us, not in the teaching of the Code to our students but in our failure to grasp its underlying motive and to live up to the spirit of the law. Want cannot be said to justify theft, except in extreme circumstances; and surely plenty, honor and success are the three last attributes which would warrant pilfering a colleague's larder. And yet it is just this, no less, which failure, conscious or unconscious, to grasp the spirit of the Code entails upon many an innocent victim.

The Smallpox Situation in Ohio

It is with a sense of relief that we are able to note the smallpox situation in Ohio as improving. Its distribution throughout the State has been, and still remains, widespread, a fact due, undoubtedly in a large measure, to the mildness of the epidemic type prevailing—with certain exceptions—and to a less degree, unfortunately, to the attempts at concealment which are constantly coming to light in every community.

From November 8 to December 31, 775 cases of smallpox were reported to the State Board of Health with 49 deaths, 29 of which, however, occurred in Cleveland, a mortality of 6.3%. In Portsmouth the disease appeared in malignant form, 11 deaths occurring between December 1 and January 3, out of a total of 66 cases recorded since June, a mortality of 15%. By January 8, however, the disease was well under control. In Norwalk also the mortality rate has been unusually high, one-seventh of the entire number of cases resulting in death.

During January the situation generally showed marked improvement, Ironton having the largest number of cases, but, happily, of a milder type than prevailed in Portsmouth. Elsewhere throughout the State the reports are extremely encouraging, notwithstanding the threatening headlines in the lay press, Springfield, Warren, Toledo, Delaware, Galion, and Marion, all reporting the situation as improving, while in Columbus the disease has prevailed in a very mild type, there having been but 10 deaths since the beginning of the present epidemic in 1898.

The very fact that the disease has become so widespread and prevails in so many scattered localities in such a mild form, should put the authorities everywhere even more keenly on the alert. The danger arising from a mild type of the disease is too often greater than that due to the most malignant form, which is always so frightenedly shunned.

In Cleveland, as a result of the vigorous campaign begun

during the summer, the epidemic has been checked in a way that is a remarkable demonstration of the efficacy of thorough vaccination. When we consider the virulence of the type epidemic here, with a mortality rate ranging from 14 to 15%, and the threatened civic calamity of six months ago, the present encouraging situation is indeed one which it is a genuine pleasure to be able to record.

The Value of Certain Pathologic Changes in Rabies

In no other infectious process have the pathologic changes been studied with greater zeal than in rabies. For here, unlike those infections in which the etiologic factor has long been known, there has been the double interest in the study of the postmortem lesions due to our incomplete knowledge both of cause and effect.

The empirical demonstration of the value of inoculation against rabies in individuals bitten by animals, themselves the victims of hydrophobia, must always remain one of the most brilliant and humane discoveries in medical science. Fortunate, indeed, it is that failure to isolate and to determine accurately the nature of the etiologic factor has not militated against the great help which has come through a knowledge of the finer anatomic changes which occur as the result of a true infection with rabies.

It is a far cry from antivivisection to hydrophobia, and yet even here there is a lesson not to be lost. Surely any information, which can be obtained from the study of the lesions in animals dead of experimental hydrophobia, which will make it possible to diagnose the existence of, and to institute proper treatment against the development of rabies in individuals bitten, within 24 hours after such accident, must be acknowledged as a wonderful triumph over the delay and uncertainty necessary by the older methods of control—methods, however, still used as confirmatory of the earlier histologic reaction—and should go far towards silencing the clamor of the ignorant against the experimental use of animals.

The so-called Van Gehuchten-Nelis reaction, which consists essentially in a small round-celled infiltration about the vessels of the central nervous system and especially about the ganglia of the cervical sympathetic system, seen only as a result of rabies, has made possible this result. Its inestimable value to human life is well illustrated by an item which appears among the news notes in this issue. Within 24 hours after the receipt of the carcass of a dog, supposedly the victim of rabies, at the laboratory of the Ohio Hospital for Epileptics, in Gallipolis, a positive Van Gehuch-

ten-Nelis reaction made it possible to advise by telegraph that if any individuals had been bitten they be sent at once to a Pasteur Institute for proper treatment. As it turned out six people had received more or less serious bites. What one of these six would have decried the patient laboratory investigation, or the sacrifice of animal life which made possible this early note of warning to them, and may have meant the saving of several lives?

Some Insurance Facts

A writer in the New York *Independent* for August 28, 1902, who contributes regular articles upon insurance presumes to criticise what he is pleased to call "the lack of certainty in medical examinations." His conclusion is based upon the fact that the New York Life Insurance Company in 1901 had 435 deaths of policy-holders whose policies had not passed the first 12 months. It is curious that any writer upon insurance would attempt to draw such a sweeping conclusion from so insecure premises. In the first place this is the experience of only one company. In the next place no account is taken of the causes of death. Deaths from suicide, pneumonia, smallpox, accidents, etc., will of course never be avoided by any sort of medical examination. Therefore, until it is known how many of these 435 deaths were due to such causes any deductions whatever are wholly unwarranted. If it were shown that a very large proportion of these deaths was due to chronic disease, it would then be proper to conclude that the medical examiners of this particular company were inefficient, for even in such case there would be no warrant for the conclusion that medical examinations as a whole afford no protection to life companies.

This writer says that it will not do to conclude that this company does not sift its applicants carefully enough. He, however, offers no facts in substantiation of his views. If he knows anything about the medical departments of this or any other company—and he should know something of this matter before presuming to write upon it—he knows that, practically without exception, there is no life company doing business in the United States which really follows a rational plan in the appointment and retention of medical examiners. Further than this, he knows that the chief effort of the business managements of all the companies during recent years has been to *reduce the cost* of medical examinations. As the companies cheapen their medical departments they must not be surprised that they are compelled to accept mediocre or

inferior physicians as examiners. The very company whose figures he quotes is one which a few years ago reduced its medical fees, and thereby lost the services of a number of its best qualified and most experienced examiners.

The medical selection of insurance risks is like any other skilled work in that it requires both knowledge and experience. But physicians who possess these qualities are not compelled to sell their services so cheaply as the companies rate them. The writer has already placed on record the fact that he knows of one examiner for a number of life companies who has not in his possession any apparatus for the testing of urine. It happens that this poorly equipped physician is an examiner for the company which is reported to have had so many deaths during the first year of the policies issued by it last year. Companies which will not take the trouble nor go to the expense of determining what sort of examiners they employ deserve no sympathy for their poor results from medical selection, and are very far from being in a position to propound any opinions whatever upon the real value of the scientific medical selection of life insurance risks.

A Plunge After Cheap Notoriety

Early in November last one H. Plympton, M. D., of Brooklyn, New York, sent out an "original" article advertizing on the use of the curet. The copy that reached this office, as well as the accompanying letter, bore some evidence of having been printed in imitation of typewriter work. So that, while no particular remedy appeared to be exploited in the article, we consigned the whole thing unanswered to the wastebasket. But the harvest came, nevertheless. Some 25 journals, among them several good ones, accepted and promptly published the article. With characteristic honesty the *Journal of the American Medical Association* editorially exposed this miserable business, remarking that it then had a list of 15 journals that had been caught and congratulating itself upon having returned the article to its author. The object of said author is almost beyond ordinary ken. The only tangible result of his sky-rocket effort has been to make it sure that no reputable medical journal will ever accept an article written by him. "H. Plympton, M. D., of Brooklyn, N. Y.," is hereafter a "man of mark" among medical editors.

And by the way it may be noted that Brooklyn appears to be becoming a center of certain rather doubtful activities in medicine.

A Very Unfortunate Happening

In his zeal to defend the cause of vivisection, W. W. Keen, of Philadelphia, recently placed himself, unfortunately, in an indefensible position. Readers of the Cleveland newspapers, as well as of the newspapers of other American cities, are already familiar with the circumstances. Dr Keen, employing the now well-known methods of cerebral localization, removed a clot that had formed over the arm-center of one Aikin, a cadet at Annapolis. Of course cerebral localization is very largely a result of animal experimentation, and so Dr Keen, in order to show the general public how much science had profited by vivisection, scientifically conducted, reported the case in full in the newspapers. Zeal in the defense of a worthy cause is quite sufficient to explain his course up to this point. The exact application of the appended biography of Dr Keen, with its full list of honors won, and especially of the photograph of Dr Keen at work in laboratory and clinic, is not so easy to determine without admitting the truth of the first point of Senator Gallinger's reply: "First, That self-advertisement is prohibited by the ethics of our profession."

That Dr Keen should so place himself as to receive from the leader in Congress of the antivivisectionists a lesson in professional ethics is in the highest degree unfortunate. Particularly is this true because Dr Keen has held a high professional position and because this mishap has placed him in such position that, for some time to come, his services will be of no value to those who are endeavoring to prevent the "antis" from prohibiting animal experimentation. How so clear an intellect as Dr Keen's could have thus been entrapped it is very difficult to see. The whole occurrence is one of the most unpleasant to contemplate that has for a long time involved a prominent member of the medical profession. The reprinting in the Sunday newspapers (of December 28, 1902) of Dr Keen's biography and photographs makes it extremely difficult for his friends to assert that he has innocently suffered at the hands of the newspapers.

Honor to Carnegie

The first official announcement is made that the Carnegie Institution will undertake the resumption of the publication of the *Index Medicus*—that invaluable record of medical literature: It is a pleasure to know that the editorial management will once more be vested in the hands of Robert Fletcher, assisted by Fielding H. Garrison. The subscription price has been fixed at \$5, so that it

is within the easy reach of every doctor who needs it. Communications concerning subscriptions should be addressed: Carnegie Institution, Washington, D. C., while letters relating to the editorial department should be addressed: Editors *Index Medicus*, Washington, D. C. The thanks of the whole medical profession should be heartily expressed to the directors of the Carnegie Institute for giving this very material aid to the development of medical science. The scope of the revived *Index* can best be conveyed by reprinting the circular of announcement, as follows:

The *Index Medicus* was established in 1879, under the editorship of Drs John S. Billings and Robert Fletcher, and was discontinued in 1899. The present publication, which is undertaken by the Carnegie Institution, will be known as *Index Medicus*, *Second Series*, Volume 1 commencing in January, 1903. It consists of the titles in full of books, pamphlets, theses, contributions to co-operative works and original articles in journals, transactions of medical and scientific societies, and the like, arranged under subject-headings. It is issued as early as possible after the first day of the month, time being allowed for the arrival of foreign journals, and it represents the literature of the preceding month. A table of contents accompanies each number, and on the completion of the volume an "Annual Index of Authors and Subjects" is issued. The subject part of this annual index is elaborately subdivided, the classification closely resembling that of the Index Catalogue of the Library of the Surgeon General's Office. The annual index of the last volume of the first series occupies 156 pages in double and triple columns.

The titles in certain languages, as Russian, Polish, Swedish, Danish, Finnish, Hungarian, Bohemian, Roumanian, and Japanese, are translated into English. The editor, while indexing all really original matter, does not admit "reports of progress" or include all copies of an article which may appear in other journals. Translations are admitted when in languages more familiar than the originals.

The *Index Medicus* publishes no advertisements and does not exchange copies with other journals.

The classification by subjects which will be adopted in the monthly numbers will closely follow that which use made familiar to the readers of the first series, but with such additions and modifications as advances in medical knowledge may require.

ROBERT FLETCHER, M. D., Editor-in-Chief.

Selection

"A Higher Standard of Entrance to Ohio Medical Schools"

"The Ohio State Board of Medical Registration and Examination has still further raised the standard of minimum requirements for entrance into the medical schools of that State. At

least two years of preliminary Latin study is now required and the examination includes botany or zoology, physics and chemistry as well as rather more advanced mathematics. The requirements are still none too high, but are a marked advance that it would be well if other boards would imitate. The inclusion of a certain amount of Latin study is judicious, for, say what we will, it is the best foundation for the scientific study of medicine, and though the requirements may not go far enough to insure very much classical culture, it is a step in the right direction. We are not likely to be altogether the gainers by the popular tendency of the day to reject the old courses of classical study as a leading part of an education, not even in a practical way. The graduates of the German gymnasia where the classics are taught to be on the whole better fitted for the latter scientific courses than are those of *Real-schulen*, where the studies are more directly in the modern practical lines.

"It is fortunate that the Ohio law has put into the hands of the registration board the power to regulate the preliminary requirements of the medical schools of the State. The latter may suffer for a time, and some have already succumbed, and others may, but the final result will be that an Ohio diploma will be of so much the more worth. It will be well if in the future amendments to the medical practice acts similar provisions are adopted in other States and so drawn up that the standards can be raised to meet the requirements of the times, and the preliminary examinations taken, as in Ohio, entirely out of the hands of the medical schools themselves. At present there is little danger of the standards being made too high! Medicine is classed as a learned profession, and we should endeavor to make it more deserving of the name than it has been in the past. With all our facilities for education, free schools, high schools and universities practically free, there is no reason why any aspirant for the medical profession should not be better prepared than is the rule at present.

"It is not to be expected that any new methods will be perfect from the first, and the present defects in the Ohio system, the lack of uniformity of examinations by the different examiners, for example, are only the temporary imperfections of a new machine that will be remedied by time and use. We hope there will be no backward steps, and we do not fear any too enthusiastic rushing to extremes, but look to the Ohio plan—as one that will soon have to be generally adopted, with such modifications as experience and progress may require."

Journal of the American Medical Association.

Book Reviews

A Treatise on the Eye, Nose, Throat and Ear. For Students and Practitioners. By Eminent American and English Authors. Edited by William Campbell Posey, M. D., Surgeon to Wills Eye Hospital, Philadelphia, and Jonathan Wright, M. D., Laryngologist to the Brooklyn Eye and Ear Hospital, etc. In one octavo volume of 1234 pages, with 650 engravings and 35 plates in colors and monochrome. Cloth, \$7.00, net; Leather, \$8.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

When I see one new text-book after another appear, all covering practically the same ground, I sometimes wonder whether some of this energy and labor could not be expended to much greater advantage to the writers and certainly to the profession and to the cause of science if they were expended in the production of thorough monographs upon some subject pertaining to the eye, or to original research work. I felt in somewhat this spirit when I picked up this new large volume on diseases of the eye, ear, nose and throat, but soon became much interested in it and read it with pleasure. The book is an unusually good one; it is in fact, a one volume system, and the editors have been wise and fortunate in the selection of the contributors. The general character of the book is good throughout, and the reviewer would not mean any implied criticism of chapters not mentioned when he makes special reference to other portions.

The chapter on diseases of the conjunctiva and the cornea is especially good, and is also unusually well arranged with various sizes of heavy faced type at the head of paragraphs, so that the book may be used very readily for reference. In the attempt to cover the entire subject in one volume there must of course be some things omitted and others barely alluded to, and some things have been left out in this book which might have been added, as, for example, in the paragraph upon the loss of vitreous, no mention is made of the injection of sterile normal saline solution into the globe to replace the lost vitreous. The book is unusually good in the pathology and bacteriology, and we were much pleased to see a special chapter upon the pathologic and bacteriologic examination of the eye.

In its reference to recent literature and its mention of the latest remedies and measures that have proven to be of value the book gives evidence of being thoroughly up to date. Mention is made of the benefit derived from the X-ray in sarcoma of the choroid, and my own experience agrees with the writers in the use of protargol in inflammation of the lachrymal sac and of adrenalin in the duct before passing the probe.

The individual views of some of the writers upon certain subjects are naturally of interest. In the chapter on sympathetic ophthalmia the writer makes much more use than usual of the conjunctival flap in covering wounds, accidental or intended, of the eye-ball as a preventive of infection. In the treatment of foreign bodies within the eye-ball he is more conservative than the majority of oculists, and evisceration is, in his opinion, "the operation of

choice as a prophylaxis for sympathetic ophthalmic, although the weight of authority is in favor of enucleation." A chapter upon the eye in its relation to general diseases, not included at all in many text-books, is added, and is unusually complete, covering 70 pages. The illustrations are numerous, and some very good microphotographs have been added in the chapter on diseases of the lens.

The portion of the volume, little less than half, upon the nose, throat and ear shows similar care and thoroughness in its preparation. The chapter upon diseases of accessory sinuses is especially full and valuable. The book is rather bulky to handle, but the publishers have performed their part of the work very well and have made an attractive volume.

Cellular Toxines, or the Chemical Factors in the Causation of Disease. By Victor C. Vaughn, M. D., LL. D., Professor of Hygiene and Physiological Chemistry and Director of the Hygienic Laboratory in the University of Michigan, and Frederick G. Novy, M. D., Sc. D., Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan. Fourth edition, revised and enlarged. Lea Brothers & Co., Philadelphia and New York, 1902.

The fourth edition of this important work has been fully revised and brought down to date. The field covered is a wide one. The book deals with the effect upon the body of the poisons generated by the growth of bacteria within it, and of the ingestion of poisonous foods. It considers, too, more briefly, the effect upon the organism as a whole of deficient action in its parts. It then takes up the resources of the body in this combat with disease and gives a resumé of the experimental researches on the germicidal properties of blood serum, and upon natural and acquired immunity. In addition we have an account of those products of cellular activity known as specific precipitins, lysins and agglutinins. It has been the aim of the writers to "collect, systematize and arrange" the results of the numerous researches in these fields. An abundant experience in the experimental investigation of questions in the field covered enables the authors to interpret the results of others with exceptional authority, and give us in one volume of moderate size a comprehensive survey of articles buried in numerous journals, monographs and government reports.

Atlas and Epitome of Traumatic Fractures and Dislocation. By Prof Dr. H. Helferich, Professor of Surgery at the Royal University, Griefswald, Prussia. Authorized Translation from the German, Edited by Joseph C. Bloodgood, M. D., Associate in Surgery, Johns Hopkins University, Baltimore, Md. Fifth edition Revised and Enlarged, with 216 Colored Illustrations on 64 Lithographic Plates and 194 Figures in the text. Philadelphia and London: W. B. Saunders & Co., 1902.

This is a translation of one of Lehmann's hand atlases which have become quite popular in Germany. The numerous and excellent illustrations constitute a leading characteristic of the work. The external deformities caused by fractures, the anatomic preparations, X-ray shadows and the modes of dressing are depicted.

The text, though somewhat brief, is practical and up-to-date. The translator has made numerous valuable additions.

The Practical Medicine Series of Year Books, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly Under the General Editorial charge of Gustav P. Head, M. D. Vol. II General Surgery Edited by John B. Murphy, M. D., Chicago. The Yearbook Publishers, 40 Dearborn street, Chicago.

In this volume of 493 pages is given a survey of the surgical literature of the past year. The articles of various writers are presented as they themselves discussed the subjects—that is to say, without criticism on the part of the reviewer, except in a few cases. Almost the entire field of surgery is covered, and the reader will find much interesting and valuable information in the book.

Bacteriological Technique. A Laboratory Guide for the Medical, Dental, and Technical Student. By J. W. H. Eyre, M. D., F. R. S., Edin., Bacteriologist to Guy's Hospital, and Lecturer on Bacteriology at the Medical and Dental Schools, etc. Octavo of 375 pages, with 170 illustrations. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, \$2.50 net.

This volume deals solely with the technic employed in bacteriologic work and will prove very valuable to the student in the laboratory. It does not include the description and characteristics of the various pathogenic bacteria but leaves this to the various text-books and manuals of bacteriology. The work is intended therefore to supplement and not to replace these. Attention has been paid to many small but important details which are either omitted or insufficiently emphasized in most of the text-books. By paying attention to these points the beginner will avoid many of the sources of failure in bacteriologic work. The chapter on culture media is very satisfactory, and the instructions for animal inoculation are also good. Illustrations are freely used and save a great deal of unnecessary explanation in the text.

Resolutions

Whereas, Dr Thaddeus A. Reamy, of Cincinnati, a classmate of our President, Dr H. R. McClellan, on the invitation of the president, delivered an address on the subject of "Treatment of Abortion,"

We, the members of the Green County Medical Society, express our hearty appreciation of the same for the able manner so characteristic of the speaker and scientifically discussed much to the advantage of all present.

Resolved, that we tender to Dr Reamy our thanks and send these minutes to *Lancet-Clinic* and CLEVELAND MEDICAL JOURNAL.

HUGH F. LORIMER	} Committee
MIRON I. MARSH	
ASA C. MESSENGER	

Here and There in Europe

FROM OUR TRANS-ATLANTIC CORRESPONDENT

In selecting countries to be visited during a European tour, Savoy should not be overlooked. It has many attractions, and varied ones. Lakes and rivers, glens, dales, and meadows are lovely in Savoy, and with them also some of the finest mountain scenery in all Europe. Mont Blanc is here, "a kingly spirit throned amid the hills." The best critics have appreciated Savoy. Victor Hugo lauds its "grace alpestre a less grand but more coquet than Switzerland." Ruskin praises the "pure and interrupted fullness of its mountain character."

Here, too, are places of much interest to antiquarian and historian, dating far back into the oldest of the prehistoric "Stone Ages." In the lakes are the piles yet visible which sustained lake villages. An enthusiastic Mayor of Annecy pointed out some of these submerged relics to Napoleon I, saying: "Our ancestors lived in buildings placed on these piles," and the incredulous Emperor answered: "Then your ancestors were the beavers!"

Chambery, the capital city of Savoy, was a favorite residence of Rosseau, and admirers of this writer make it a place of pilgrimage. From Chambery are a number of excellent excursions, one to the Grande Chartreuse (going or returning *via* Grenoble) is very popular. Another less known but very picturesque is to Allevard-les-Bains, a rising health-cure station, situated on the River Breda, 1,600 feet above the sea-level, and surrounded by grand hills. It has several mineral springs which are collected into a single well, yielding about 900,000 gallons daily of calcaro—sulphurated waters of 30° Fahrenheit temperature. They have a bitter and astringent taste, more carbonic-acid gas, and a stronger smell than the principal Savoy waters, and their action on the circulation and nutrition is very noticeable. Their effects on the skin and mucous membranes are very marked. Allevard is highly recommended by French physicians for skin troubles, nasal catarrhs, feminine maladies, lymphatism, asthma and chronic diseases of throat and larynx. It is also acquiring favor as a milk and whey-cure station, and because of its sedative mountain atmosphere, as a preventive residence for those predisposed to phthisis. The season is from mid-May to mid-October.

A Correction

We are informed by the City Bacteriologist, Dr W. T. Howard, Jr., that the statement which appeared in our editorial of last month in reference to the work of the City Bacteriologic Laboratory that anthrax bacilli had been found in two samples of vaccine virus is incorrect. We regret that this error should have occurred. We understand that two unidentified actinomyces were cultivated from two samples of vaccine virus, but no anthrax bacilli have ever been cultivated, from any virus, by the Laboratory.

Enno Sander Prize—1902-1903

The essayist securing first place will receive a gold medal, of the value of one hundred dollars; the essayist securing first honorable mention will receive a life membership in the Association, of the value of fifty dollars.

SUBJECT FOR 1902-1903

THE DIFFERENTIAL DIAGNOSIS OF TYPHOID FEVER IN ITS
EARLIEST STAGES

1. *Conditions of the competition.* Competition is open to all persons eligible to active or associate membership in the Association of Military Surgeons of the United States.

2. The prize will be awarded upon the recommendation of a Board of Award selected by the Executive Committee. The Board will determine upon the essay to which the prize shall be awarded, and will also recommend such of the other papers submitted, as it may see fit for honorable mention, the author of the first of which shall receive a life membership in the Association.

3. In fixing the precedence of the essays submitted, the Board will take into consideration—primarily—originality, comprehensiveness and the practicability and utility of the opinions advanced, and—secondarily—literary character.

4. Essays will consist of not less than ten thousand words, nor more than twenty thousand words, exclusive of tables.

5. Each competitor will send three typewritten copies of his essay in a sealed envelope to the Secretary of the Association, so as to reach that officer at least one month before the next ensuing annual meeting.

6. The essay shall contain nothing to indicate the identity of the author. Each one however will be authenticated by a nom de plume, a copy of which shall, at the same time as the essay, be transmitted to the Secretary in a sealed envelope together with the author's name, rank and address.

7. The envelope containing the name of the successful competitor will be publicly opened at the next succeeding annual meeting of the Association, and the prize thereupon awarded.

8. The successful essay becomes the property of the Association of Military Surgeons of the United States, and will appear in its publications.

Board of Award—1902-1903: Brigadier General Austin Flint, New York; Colonel Calvin De Witt, U. S. Army; Lieutenant Colonel Victor C. Vaughan, U. S. Vols. Robert Allen Blood, president; James Evelyn Pilcher, secretary, Carlisle, Pa.

C. O. Probst, President of the Ohio State Board of Health, returned from the east, and is very enthusiastic over the establishment of sanatoria for the cure of consumptives.

Recent Additions to the Cleveland Medical Library

Purchased: Cheyne-Burghardt, Manual of Surgical Treatment, vol. 6, 1902. Hoffmann, F. A., Rosenbach, Dr O., Aufrecht, Dr E., Diseases of the Bronchi, Lungs and Pleura (Nothnagel's Encyclopedia of Practical Medicine). Bailey, Pierce, Accident and Injury in Relation to Diseases of the Nervous System. Deaver, J. B., Surgical Anatomy, vol. 3, 1902. Progressive Medicine, September-December, 1902. Cohen's Physiologic Therapeutics, Prophylaxis, Personal Hygiene, Civic Hygiene, Care of the Sick, vol. 5, 1902. Clinical Surgery, A. J. Ochsner, M. D. Diseases of the Skin, Henry W. Stelwagon.

Donated by: Dr Dudley P. Allen, Zuckerandl, O., Atlas and Epitome of Operative Surgery. DaCosta, J. C., Modern Surgery. Gould, G. M., American Year Book of Medicine and Surgery, 1897, 1898. Kocher, Dr Th., Chirurgische Operationslehre. Transactions, Southern Surgical & Gynecological Assoc., 1902. Dr H. E. Handerson, 18 numbers Census Bulletin U. S., 1902. Annual Report, Public Health, Cleveland, 1901. Dr F. H. Montgomery, Sec'y, Transactions American Dermatological Association, vol. 25, 1902. Dr C. A. Hamann, Gould's American Year Book Medicine and Surgery, 1902. Proceedings Association American Anatomists, vols. 11, 12, 13, 1898-1900. Journal of Medical Research, vol. 8, Nos. 2, 3. Dr C. J. Aldrich, Eichorst, Dr H., Textbook Practice of Medicine, vols. 1, 2. Pamphlet, Puerperal and Gestational Paralysis. Biennial Report, Minnesota Public School for Dependent Children, 1900. Dangerous Trades, edited by T. Oliver. Penrose, C. B., Textbook Diseases of Women, 1901. Dr J. M. Ingersoll, Diseases of Nose, Pharynx and Ear, by H. Gradle. H. Mitchell, Sec'y, Report State Board of Health New Jersey, 1901. Hon. T. E. Burton, Year Book Dep't of Agriculture, 1893 to 1900, 8 vols. H. A. West, Sec'y Transactions Texas State Medical Association, 1902. Dr W. W. Ford, Baltimore, 131 miscellaneous bound volumes Medical works, 81 unbound complete volumes, 202 numbers of Journals. Dr Jessie Boggs, Journal American Medical Association, 2 vols., 1902. Dr S. W. Kelley, 2,320 miscellaneous numbers of Journals. From Journal American Medical Association, Uveitis, by DeSchwienitz and others. DeForest Willard, Philadelphia, Presidential Address American Surgical Association, June 3, 1902. Transactions Medical and Chirurgical Faculty of the State of Maryland, 1902. F. C. Heath, M. D., Sec'y, Transactions Indiana State Medical Society, 1902. Dr S. S. Cohen,

Transactions Association American Physicians, 1902. Granville, P. Conn, Sec'y, Transactions New Hampshire Medical Society, 1902. Surgeon General's Library, Washington, vol. 6, Index Catalogue, 2nd series. Census Office, Washington, Manual of International Classification of the Causes of Death, 1902. Dr W. E. Bruner, Report of Cholera in India and Europe, 1890. Dr J. E. Newcomb, Sec'y, Transactions American Laryngological Association, 24th annual meeting, 1902. R. H. Harte, (Recorder), Transactions American Surgical Association, vol. 20, 1902. Complete List of Officers and Fellows, American Surgical Association and Index for vols. 1-20. Cleveland Medical Journal, 360 miscellaneous numbers of current Journals. Spears, H. H., Tuberculosis or Consumption. Practical Medicine Series of Year Books, vol. 10, Skin and Venereal Diseases, Nervous and Mental Diseases. Dr A. Cudell, 87 miscellaneous volumes medical works.

A valuable collection of surgical instruments has been presented to the Library by Dr Gustav C. E. Weber, and will be placed on exhibition shortly.

Henry Tompkins, medical superintendent of the fever hospital belonging to the Manchester Royal Infirmary, at Monsall, said speaking of vaccination: "The most striking of all evidence is, perhaps, that derived from the smallpox hospitals themselves. Here the protective influence of vaccination is seen and proved in a manner beyond cavil. At Highgate, during an experience of 40 years, no nurse or servant having been revaccinated has ever contracted the disease, and evidence of the same character I can myself bring forward; for, during the whole time that I have had charge of the fever hospital, more than 1,000 cases of smallpox have passed under my care, yet no servant, nurse, porter, or other person engaged there, has, after revaccination, even taken it, though exposed daily to infection in its most concentrated form." More recently the committee appointed by the Edemiological Society (England) reported that out of 1,500 smallpox nurses 43 had smallpox, and not one of these 43 had been vaccinated. During the epidemic of 1871, 110 persons were engaged in the Homerton Fever Hospital in attendance on the smallpox sick; all these with two exceptions were revaccinated, and all, but these two, escaped smallpox. Of 734 nurses and attendants on smallpox cases in London hospitals 79 had smallpox previously to their entrance. They escaped. Six hundred and forty-five were revaccinated on entrance; not one took smallpox; ten escaped revaccination, and the whole 10 took smallpox. —*British Medical Journal*, January 6, 1894.

Medical News

On December 18 Urbana was free from smallpox.

J. W. Birk will locate in Bucyrus, his native town.

On December 31 there were 29 cases of smallpox in Portsmouth.

A case of smallpox was reported from New Haven, January 1.

Another case of smallpox was reported from Tiffin, January 1.

Three more cases of smallpox were reported from Melmore, January 1.

Four new cases of smallpox were reported from Columbus, January 1.

Four more cases of smallpox were reported from Sonora, January 1.

Willis Kirkbride, whose home city is Findlay, will locate in Fountaine.

Antivaccination cranks are holding indignation meetings at Cincinnati.

W. B. Croft and W. E. Kneale, of Medina, have formed a partnership.

H. C. Pearce, of Urbana, suffered a second stroke of paralysis December 1.

The Cincinnati Polyclinic Institute was formally opened on December 15.

The Seneca County Medical Society held a meeting at Tiffin, November 24.

Ten cases of smallpox were reported from Richland township, November 28.

The spread of trachoma in Cincinnati is assuming the form of an epidemic.

R. A. Bonnfield, of Zanesville, sustained a fracture of his left leg November 27.

Ralph Wilkinson, of Cincinnati, was operated upon for appendicitis on December 20.

New City Hospital laws were made in Cincinnati, but the old ones were not repealed.

D. Beckel Conklin and Miss Helen Wolf, of Dayton, were married on December 9.

A well-developed case of smallpox was reported from Vermillion on December 12.

A report of the work for 1902 of the City Bacteriologist, of Columbus, has been filed.

S. A. Hawes and W. T. Fitzgerald, of Greenville, formed a partnership on January 1.

R. N. McConnell and I. N. Bowman, of Upper Sandusky, have dissolved partnership.

Tonsilitis was very much in evidence in Cincinnati during the early part of December.

W. C. Harding, of Elmwood, was severely injured in a run-away accident November 23.

L. A. Wood, of Lorain, and Miss Edith Phipps, of Elyria, were married on December 10.

M. Wright, of McArthur, suffered a stroke of paralysis November 27. He is improving.

Ethyl chlorid was used in Cincinnati on December 8, as a general anesthetic for the first time.

G. A. Sudhoff, of Cincinnati, has been compelled, on account of ill health, to discontinue his practice.

The Tiffin Health Department reported November 25 that the diphtheria situation was greatly relieved.

The future buildings of the State Hospital for Epileptics at Gallipolis will be built on the cottage plan.

Momineetown had a well-developed case of smallpox on December 15, and the place was quarantined.

T. D. Sharkey, of Hamilton, had a narrow escape from serious injury in a runaway on December 29.

During the last week in December there were 60 cases of parotitis in the Barracks Hospital at Columbus.

Coroner-elect Weaver was sworn in at Cincinnati, December 2, and gave bond to the amount of \$15,000.

Herbert F. Beins, of Sharon, received the appointment to the County Infirmary at Cincinnati, January 5.

During the latter part of December there were 18 places under smallpox quarantine at Delaware.

The first annual banquet of the Alumni Association of Charity Hospital of Cleveland, was held on December 16.

The medical firm of Robeson and Anderson, of Greenville, will now be known as Anderson and Anderson.

On December 11, seven new cases of smallpox were reported from the railroad camp just north of Portsmouth.

The annual report of the Columbus State Hospital shows that many improvements have been made during the year.

Invitations have been issued for the wedding of James Freshour, of Troy, and Miss Elizabeth Rayner, of Piqua.

Matthew D. Mann, of Buffalo, N. Y., has accepted an invitation to speak before the Cincinnati Obstetrical Society.

Vaccination certificates of all reputable physicians will be accepted in the future by the Cincinnati Health Department.

The smallpox situation at Bryan was reported to be about the same on January 1 as it was during the middle of December.

E. W. Postle, of West Jefferson, will practice in Columbus after January 1. His successor will be N. O. Jones, of Kenton.

The Trustees of the Cincinnati City Hospital have asked for \$2,500 to defray the expenses of the branch hospital for infectious diseases.

W. W. Brand, Health Officer of Toledo, was presented with a magnificent diamond studded badge by the members of his department.

The Columbus Health Department has discovered the source of its smallpox infection and claims to have the situation well under control.

During the last month the drinking water supplied to Cleveland has been filthy and undoubtedly much sickness can be traced to this source.

A number of smallpox cases were discovered by the health authorities in Harrison township in the neighborhood of Glendale early in January.

L. L. Syman, of Springfield, has recently been appointed chief surgeon of the Detroit Southern R. R. for both the Northern and Southern divisions.

Frank Snodgrass, of Kenton, will enter upon the duties of House Physician of the Episcopal Hospital of Yonkers, N. Y., November 28, 1902.

G. W. Reichard, of Springfield, accidentally discovered a case of smallpox in the latter place which had been without medical attention for a week.

A number of applicants from Cleveland and vicinity were awarded diplomas early in the year by the State Board of Registration and Examination.

Two cases of smallpox were reported at Laura. The schools have been closed, all public entertainments debarred, and three families have been quarantined.

The Perry County Medical Society held a meeting at New Lexington on December 18. U. K. Essington, of Somerset, read a paper on "Local Anesthesia."

Health Officer Davis, of Cincinnati, received commendation from the members of the Academy of Medicine on his method of handling the social evil question.

The Marion Academy of Medicine met on December 8. Every member was present. J. W. Adair read a paper on "The Diseases of the Throat, Lungs and Air Passages."

Frank H. Lamb was elected clinical lecturer on children's diseases at the Miami Medical College. He is the youngest doctor who ever held the position at the College.

A case of smallpox drifted into Bellaire November 20 from McClainsville. The Bellaire authorities promptly sent the patient back to McClainsville, where he was quarantined.

The Montgomery County Medical Society met at Dayton on January 2. Dr Wilfred Taylor read a paper on "The Significance of Albuminuria," which was very freely discussed.

The Clark County Medical Society held a clinical session at Springfield, December 1. The feature of the meeting was a project to affiliate the local Society with the State Association.

County Prosecutor Hoffheimer, of Cincinnati, refused to bring the *quo warranto* suit requested by T. P. Kramer against the fees charged for tests made in the University laboratory.

Twenty-one cases of smallpox were reported in Newberry, near Bloomfield, Indiana, up to November 28. There are evidently other places besides Cleveland that have smallpox epidemics.

The Montgomery County Medical Society met at Dayton on November 7. D. N. Kinsman, of Columbus, read a paper on "Points in the Diagnosis of Some Spinal and Mental Diseases."

The Marion County Medical Society has adopted the constitution and by-laws as recommended by the American Medical Association at a meeting called for this purpose on December 17, 1902.

W. H. Crane, Professor of Chemistry of the Ohio Medical College of Cincinnati, is mentioned as the probable successor of D. L. Cameron as Bacteriologist of the Cincinnati Health Department.

Capt T. B. Dupuy, of Dayton, was appointed surgeon, and J. L. Schaeffer, Mechanicsburg, and F. K. Grottwald, of Dayton, were appointed assistant surgeons, and all were assigned to the third regiment.

Charges have been filed with Attorney-General Sheets to oust the Ohio Medical University, of Columbus, but action has not been taken. W. J. Means, one of the Trustees, says he fears no investigation.

The Shelby County Medical Society met during December and elected the following officers for next year: President, E. A. Yates; vicepresident, D. R. Silver, and J. W. Costolo, secretary and treasurer.

At a meeting of the Clark County Medical Society held on December 15, C. L. Minor read a paper on "Medical Ethics." The paper urged stringent requirements for admission to various medical societies.

Governor Durbin, of Indiana, has been the subject of attack by the medical journals of the country on account of his remissness in withholding funds from the health board for the purpose of preventing smallpox.

The Northwestern Medical Society met at Findlay on December 11. The meeting was well attended, and the many papers were freely discussed. The meeting ended with a banquet at which 60 members were present.

It has cost the city of Dayton \$5,560.78 for the care of 26 cases of smallpox. Springfield, on the other hand, has had 76 cases of smallpox which have cost the city \$5,000, excluding the services of Health Officer H. H. Seys.

R. T. Longfellow, of Fostoria, entertained the assemblage with a number of microscopic and bacteriologic specimens. H. L. Wenner, of Tiffin, reported cases of appendicitis, and R. C. Chamberlain, of Tiffin, read a paper on cancer.

The Clermont County Medical Society met at Batavia, November 19. Papers were read by P. Kennedy, of Laurel, on "Conservative Surgery," by Dr Williams on "Rheumatism of Children" and by B. F. Mitchell, of Felicity, on "Eclampsia."

A meeting of the Canton Medical Society was held on January 2. The following officers were elected: President, A. V. Smith; vicepresident, F. E. Hart; secretary, H. A. March; corresponding secretary, D. D. Banker; treasurer, F. DaHinden.

The Warren County Medical Society met at Lebanon on December 30. J. M. Withrow, of Cincinnati, delivered a lecture. Dr H. Fisher was elected president, Dr Keelor was elected secretary, and J. M. Death, of Frankin, was elected treasurer.

The Columbus Academy of Medicine held its annual election of officers on December 15. The result of the election is as follows: President, F. W. Blake; vicepresident, H. Hendrixson; secretary, J. D. Dunham; treasurer, W. C. Davis. The only paper of the evening was read by Charles S. Hamilton.

The Portsmouth Board of Health on January 1 postponed the opening of the schools one week, and ordered all street-cars, hacks, public halls, churches and school buildings disinfected. It was ordered that all dogs and cats of quarantined places should be shot on sight, and that dogs and cats visiting these places should be shot.

The physicians of Highland County met at Hillsboro the first week in January and organized a Society as part of the Ohio State Medical Association and under the By-laws and Constitution of the American Medical Association. The following officers were elected: President, H. A. Beeson, Leesburg; vicepresident, H. A. Russ, Hillsboro; secretary, J. C. Larkin, Hillsboro; treasurer, H. A. Beam, Hillsboro.

The Butler County Medical Society met at Hamilton, December 3. A new constitution was adopted, and hereafter the Society opens its doors to all schools. Dan Millikin delivered an address on "The Sugar Craze." Brooks F. Beebe, of Cincinnati, then addressed the Society on "the Essentials of Reorganization."

The Cincinnati Board of Police Service is constantly receiving complaints of the severity of the vaccination demands of the Health Department. There is but one position for the latter to assume, and that is, that the more vigorously vaccination is pursued, the quicker these cranks and chronic complainers will be protected against themselves.

The State Medical Board of Registration and Examination has determined to make a test case against Christian Scientists, and to that end the old Columbus police court action against Eva Earl, who was dismissed on the charge of administering medicine without a license to practice, has been revived and will be carried to the Supreme Court of the State for a decision.

The Miami County Medical Society held its regular meeting on December 4, at Piqua. H. H. Havens, of Tippecanoe, read a paper on "Pleurisy" and the following officers were elected for the coming year: Dr Harris, Tippecanoe, president; Dr Davis, Covington, vicepresident; George McCullough, Troy, corresponding secretary; W. N. Unkefer, recording secretary.

At a special meeting of the Board of Health, held in Toledo on December 30 to investigate charges against the smallpox hospital, every one of the scandalous proceedings, said to have taken place in the Hospital, were, as usual, quickly proven to be idle newspaper prattle and the talk of people who when brought face to face with the authorities forgot every statement they had previously made.

The Clark County Medical Society met at Springfield on January 5 and elected the following officers for the ensuing year: President, J. E. Meyers; first vicepresident, C. S. Ramsey; second vicepresident, D. K. Gotwald; secretary, C. L. Minor; treasurer, C. B. Bliss; executive committee, J. A. Link, C. M. Hiestand, and C. W. Evans. C. W. Bonner and Dr Beck, of Dayton, talked upon "State and National Medical Laws."

Columbus papers are criticising H. C. Eyman, of the Massillon State Hospital, for handing in a bill of \$100 for testifying in the case of Melvin R. Smith, who killed James Shetler. They claim that the Doctor was in the employ of the State while he was testifying, and that if Smith had not been released from the Massillon Hospital, where he had been confined, he would not have committed the murder which caused his return to that institution.

Late in the evening of December 27 last, the dead body of a dog, suspected of having had hydrophobia and of having bitten a number of individuals, was received at the Laboratory of the Ohio Hospital for Epileptics by Dr Ohlmacher, for a control examina-

tion. An autopsy was made at once, the Gasserian ganglia and some of the intervertebral ganglia being secured and prepared for microscopic examination. By five o'clock on Sunday afternoon, the day following, Dr Ohlmacher was able to pronounce a Van Gehuchten-Nelis reaction, and advise that the individuals bitten be sent to the Pasteur Institute in Baltimore for treatment.

The Cleveland Health Department records show that of 1,207 smallpox cases in Cleveland since January 1, 205 proved fatal. There were 39 cases up to the final week of April before a death occurred. May showed the first serious increase, the number advancing from 16 in April to 82 during this month. From this time there was a constant increase until September, when with 340 cases the reversal came, November having only 64 cases. Deaths were greatest in September when the number reached 49. The highest record for one week was on the first of October, showing 19. Two separate weeks in September showed 17 deaths each.

The new Hotel McKinley, at Canton, was the scene of the third annual banquet of the Canton Medical Society on Friday, January 9, 1903. Covers were laid for about 100, nearly all the doctors being accompanied by their wives. Dan Millikin, of Hamilton, made the chief address, other toasts being delivered by the retiring censors, A. B. Walker, E. P. Morrow, and H. M. Schuffell, of Canton. The officers elected for the ensuing year are as follows: President, A. V. Smith; vicepresident, F. E. Hart; recording secretary, Harry A. March; corresponding secretary, D. F. Banker; treasurer, F. A. DaHinden; censors, James T. Fraunfelter, E. O. Portman and A. C. Brant. The Society now includes every reputable practitioner in Canton of all schools of medicine, and its financial affairs are very flattering. The members are rejoicing over the promise of the library authorities that the medical profession shall have a cozy alcove room in the new \$60,000 Carnegie Library in process of construction.

Deaths

Jesse Cox, of Ironton, aged 83 years, died November 25.

M. W. Porter, of Alliance, died November 29.

Josiah W. Nash, of Chillicothe, aged 52 years, died December 12.

J. C. Lawrence, of Columbus, aged 34 years, died December 23.

Byron Chapman, of Copley Center, died December 26, aged 80 years.

The Cleveland Medical Journal

VOL II

MARCH, 1903

No 3

Some Remarks on Hypernephroma or Adrenal Tumor of the Kidney*

BY A. P. OHLMACHER, M. D., GALLIPOLIS

Superintendent Ohio Hospital for Epileptics

In inviting your attention to these brief random remarks upon that class of renal new growths now designated hypernephroma, I am particularly impelled by the fact that the opportunity serves for the recording of several examples of this group of tumors which have come under my personal observation within a relatively short period. It is impossible at this time to do more than touch upon a few of the characteristics of this very interesting and important group of kidney tumors, and for further elucidation of this subject I would advise those of you who have not already done so to consult the paper by A. O. J. Kelly, of Philadelphia, (On Hypernephroma of the Kidney, etc., *The Philadelphia Medical Journal*, July 30, 1898), which is an exhaustive historic and critical summary of our information, together with reports on 11 new cases; and Riesman's excellent text-book article, Hypernephroma, in the American Text-Book of Pathology, (pp. 983-987).

Hypernephroma is a term now applied to tumors arising from the adrenals and located either in the adrenals in more or less close proximity to these organs, or in the substance of other viscera, *e. g.*, the kidney. It is a fact, very familiar to embryologists and anatomists, that the adrenal is prone to displacement during

*Accompanying an exhibition of specimens at the meeting of the Gallia County Medical Society held in the Pathological Laboratory of the Ohio Hospital for Epileptics, November 6, 1902

its development, either the entire gland being abnormally located, or portions ("rests") of it being misplaced. To the proliferation or multiplication of the cells composing such adrenal rests the origin of hypernephroma is ascribed. When you recall the close embryologic and anatomic association of the adrenals and the kidneys, it is evident that malposition of portions of the adrenal can readily occur, leaving them imbedded in the tissues more or less remote from the kidneys or even in the substance of these organs. It was Grawitz who, in 1883, indicated that most of the so-called lipomas, adenomas, myomas, sarcomas, and carcinomas of the kidney appearing in adults were, in reality, of adrenal origin, springing from the misplaced fragments of this organ. This view, upsetting as it did a vast amount of work previously done on tumors of the kidney, naturally met with opposition, and for some time the theory of Grawitz was held in question. Much painstaking study by competent workers has, in the last 20 years, gone to show the correctness of the adrenal theory, and opposition has gradually subsided until Grawitz's views have been widely accepted.

Hypernephromas or adrenal tumors of the kidney, in common with other tumors, vary much in size. Macroscopically they are characterized by certain distinctive and generally uniform features, such as a peculiar sulphur-yellow color, and a granular (crummy) cut surface. Foci of softening, of necrosis, and of gelatinous disintegration with occasional hemorrhagic discolorations often mar the uniform appearance of the proper tumor substance. Histologically they reproduce more or less perfectly one or the other of the normal layers of cells into which the adrenal cortex is divisible, or they partake in structure of the adrenal medulla. Microchemically they are to be recognized by the fact that their component cells give the reactions for fat, for glycogen, and that the nucleoli and the balance of the nucleus stain differently under certain conditions. Physiologically they are to be classed as benign or malignant. That is to say, we have hypernephromas which remain localized in the kidney, generally attaining small dimensions, and we have those which show no respect for anatomic boundaries, and which reproduce themselves in other structures more or less distant from the original growth.

I am sure you will all be particularly interested in the clinical characteristics of these tumors. As to the benign forms, they are generally unrecognized during life, unless, as occasionally happens, they attain unusual size. But malignant hypernephromas have certain well-determined and distinctive clinical features.

They are, in contradistinction to the mixed (embryonic) tumors of the kidneys, generally growths of adult life. The rapidity of growth varies, mostly being more deliberate than sarcoma or carcinoma. Aside from the discovery of the tumor in the region of the kidney (which most often directs the patient's first notice to the affection) the most significant symptom is that of *periodic hematuria*. Pain, or a dragging sensation in the loins, is sometimes experienced. The further progress of the clinical picture is dependent upon two features, the regional growth of the primary tumor, and the location of the metastases when, as is generally the case at sometime in the history of malignant hypernephroma, these occur. There may be extensive invasion of the perinephric structures, and the retroperitoneal mass may extend into the pelvis, and even invade the pelvic bones, as witnessed in one of Le Count's cases (Transactions of the Chicago Pathological Society, Vol. V., No. 5, 1902, pp. 82-85) in which the tumor protruded from the gluteal region. Incursion of the renal veins is not uncommon, and once entering the venous channels the tumor-sprouts may extend rapidly to produce widespread venous thrombosis with such resulting clinical evidence as edema of the legs when the iliacs are occluded, and of collateral venous engorgement when the vena cava becomes involved. The liver, lungs, and bones are most commonly chosen as sites for secondary hypernephroma, so that clinical evidences of hepatic tumor, or of pain and hemoptysis of pulmonary tumor may present themselves. Osséous metastases are important manifestations, and their possibility should always be kept in mind, for no doubt some of the so-called endothelioma, carcinoma, or sarcoma of bone have really been secondary hypernephroma, the original kidney tumor having been overlooked, or regarded as secondary to the bone tumor. Spontaneous fractures of bones affected with secondary hypernephroma may occur as seen in Le Count's case (*loc cit.*)

In the operative removal of primary hypernephroma the possibility of venous invasion should be kept prominently in mind so that precautions like the ligation of the renal and other large veins may be practiced before the tumor-mass is manipulated or disturbed. This precaution is emphasized by the case recently reported by Joseph C. Ohlmacher (Transactions of the Chicago Pathological Society, Vol. V., No. 3, 1902, p. 86) which I had the opportunity of studying. Here widespread and fatal metastases followed in seven weeks the removal of the kidney tumor, in explanation of which a localized invasion of the renal vein was discovered. From the thrombus penetrating this vein,

particles were doubtless set free into the venous stream during the manipulation of the tumor.

A few words as to the frequency of hypernephroma may interest you. Since the true nature of these adrenal growths of the kidney has been elucidated, we find a rapidly increasing number of cases recorded, and it is safe to predict that more extensive additions to this number will be made as information concerning them becomes disseminated. Even now it is far from permissible to call hypernephroma a rare form of renal tumor. Perhaps I can best illustrate this statement by citing my own experience in which, in a rather limited autopsy service during my sojourn in Chicago last winter, I encountered two examples of hypernephroma of the kidney, while two more found their way to my laboratory from surgical clinics. During this same period Le Count collected several cases in the Pathological Laboratory of Rush Medical College which it was my privilege to examine, and at one meeting of the Chicago Pathological Society last winter three new cases were presented.

Of my personal observations just alluded to, I desire to speak briefly in closing. The first case coming to the laboratory has been reported by Joseph C. Ohlmacher (*loc. cit.*; and *Journal of Medical Research*, Vol. VII, No. 4, 1902, pp. 421-427) and belongs to the rarer group of hypernephromas reproducing the adrenal medulla. A tumor in the region of the kidney had been noticed for five years by the patient, a female 49 years of age, and in this period pain about the kidney and periodic hematuria had occurred.

The next example was encountered at autopsy on a case from the service of Dr Weller Van Hook at Wesley Hospital. I presented a short account of this case to the Chicago Pathological Society (Transactions, April 14, 1902, p. 88) and shall take the liberty of here quoting my remarks:

"The patient was 52 years old, male, whose history referable to the tumor dated back some five years. In the last two years he had had periodic hematuria. Massive edema of both legs developed in the last month of illness. A diagnosis of renal tumor was made by a prominent Chicago surgeon two years before the man's death; operation was advised but refused. The primary tumor involving the left kidney (which is converted into a multilocular sac with patent ureter) is a massive affair weighing 4,725 grams. Histologically, it appears to be an adrenal cortex tumor of the type reproducing the *zona fasciculata*, and its sections respond to the usual histologic and microchemic tests."

You will observe that all the veins upon the vertebral aspect of the primary tumor-mass are plugged with neoplastic thrombi, which frequently sprout through the invaded vessels. The vena cava is filled by an enormous thrombus which extends down to both iliacs and up through the diaphragm. The liver weighs 3,700 grams and is filled with metastatic nodules which probably have arisen by a retrograde embolism from the thrombi in the vena cava and hepatic vein. An examination of the thoracic contents was absolutely forbidden, though the lungs were probably involved, as indicated by the hemoptysis from which the patient suffered."

Another specimen was sent to me by Dr C. S. Hamilton, of Columbus, who removed the tumor with attached remains of the kidney from a young woman who had noticed the enlargement due to its growth for several years, without suffering serious inconvenience from it. The operation was performed last winter, and to the present time the patient has remained well. From the preserved specimen now exhibited you will see that the growth had reached the size of a child's head, and you may still be able to discover the characteristic sulphur-yellow color and the granular cut surface. Its histology is that of an adrenal tumor reproducing the *zona fasciculata*.

The fourth instance in which a hypernephroma was found in my service concerns a small one discovered in the left kidney as an accidental postmortem finding. The autopsy was performed on the person of a physician about 55 years of age, who died from asthenic bulbar paralysis. The presence of the adrenal tumor, about the size of a hickory-nut and imbedded in the substance of the kidney near its upper pole, was not suspected during life. You will be able to note the anatomic features of the growth in the specimen exhibited, and the characteristic yellow color still remains in the formaldehyd-hardened object. The glassy appearance which a portion of the tumor presents marks a considerable area which has undergone necrosis and a kind of mucoid degeneration. Sections from this nodule show it to be an adrenal cortex tumor, and its cells contain the usual fat-like substance, and granules of glycogen commonly found in hypernephroma. Localized as it is, apparently respecting its boundaries, and with no metastatic offspring, we must consider this an example of the benign class of adrenal tumors.

Two Cases Illustrating Certain Relations of Syphilis and Epilepsy

BY H. S. ALLEN, M. D., GALLIPOLIS

Assistant Physician in the Ohio Hospital for Epileptics

The first case is one of epilepsy and hemiplegia, evidently caused by syphilis.

The patient, J. R., was admitted to the Ohio Hospital for Epileptics June 30, 1902. He is 28 years of age, of good physique, and was, on admission, in apparently excellent general health. He is of average intelligence, and his answers to questions were, it is thought, true to the best of his knowledge and belief.

It is stated by the patient that his first epileptic attack occurred on March 26, 1902, about eight months ago, and that he was seized without warning and thrown down unconscious. His subsequent attacks have occurred without periodicity and usually in groups. Once he had within a few hours a group of 26. Since his coming to the Hospital he has had a series of attacks that were seen by competent observers and are known to have been of the classic *grand mal* type.

The patient's parents are dead, the cause of his father's death being unknown to him, and the mother having died of cancer. Two brothers and three sisters are living and in good health. He was healthy and strong during his boyhood, and his only serious illnesses during that period were measles and whooping-cough. He was moderately addicted to alcohol.

The contraction of syphilis about five years ago is admitted by the patient, but he rather contradictorily states that he had 12 sores on his penis and that he was informed by his doctor that they were chancroids. He further states that he has never had any eruption, no breaking-out upon the skin, and that there was no falling of his hair until about a year ago. Examination of his skin reveals no evidence of any eruption, but his hair is very thin. He called attention to a "hole in his throat," using his own words, and on examination a small fistulous opening just above the uvula is seen. He states that he took a good deal of potassium iodid, but received no systematic treatment under professional direction. Midway on the left tibia there is a nodular swelling as hard as bone, which, according to the patient's story, was caused by an injury about two or three years

ago, but his answers to questions as to the nature of the injury were vague and unsatisfactory and rather tended to disprove that the lesion was caused traumatically. There is no swelling or induration of the lymphatic glands.

Early in August the patient began to complain of severe frontal headache, usually worse at night. He was observed at that time to be stupid and to be loath to make exertion. A fortnight later he kept to his bed, and has since been unable to leave it. He continued to complain of severe headache, and his mental dulness increased. At times he was irrational. Insomnia was complained of during the early part of his illness, and attributed by him to noise in the dormitory. A left-sided paralysis developed. With the onset of the hemiplegia urination became involuntary, but there has never been any fecal incontinence. The patient became thin, his skin turned sallow, and his mucous membranes paled. Several large blisters appeared without obvious cause upon the paralyzed side. The neurologic features of the case presented soon after the onset of the palsy are not in any way extraordinary, the paralysis being entirely motor, and the sensory aberration almost *nil*. There is a paresis of the left side—face, arm and leg. Wrinkling of the brow on the stricken side and frowning are markedly diminished. The eye can be closed and opened equally with its fellow, the pupillary reflexes are present, and there is no contraction of the visual fields. The cheek is flabby and sunken, but can be inflated. He smiles on the other side of his face, speaking both literally and figuratively, and his speech is slow and thick. Whistling is possible. The tongue can be protruded straight, and the sides of the soft palate are lifted equally. The patient is, with difficulty, able to raise his hand to the opposite shoulder. Bending and straightening of the elbow are difficult, slow and incomplete; likewise flexion and extension of the wrist. The fingers can be moved to and fro moderately. The grip of his left hand is weak and very much less than that of his right. The arm lies limply at his side or resting upon his abdomen; the muscles are soft, flabby and wasted. The lower extremity is as seriously impaired, there being the same or a greater degree of uselessness and atrophy. The patient is very weak and much disinclined to exert himself. When first examined, the right patellar-tendon reflex was apparently somewhat exaggerated, and the left prompt but less so than the right. A few days later the patellar-tendon reflexes were wanting. The cremasteric reflex is present on both sides, likewise the plantar. Ankleclonus is present on the right side, but

because of an ulcer on the left ankle and the consequent painfulness of manipulation, no investigation can be made there. Heat and cold are readily distinguished on the palsied side, and the contact of a wisp of cotton is promptly recognized and located. The sharp end of a pin pressed moderately upon the lower half of the paralyzed side of his face gives to him a sensation of bluntness, but with this one exception there is no departure from normal sensibility. Ordinary tests of sight, hearing, taste and smell reveal no impairment. Inspection of the patient's thorax shows it to be symmetric and shapely, of good dimensions and of sufficient expansion. Percussion and auscultation reveal normal pulmonary conditions. The heart also is normal. Examination of the abdomen gives negative information. Neither the liver nor spleen is palpable. There is no tenderness. In short, there is no abnormality discoverable in either the chest or the abdomen.

On October 24 the following clinical notes were made: The hemiplegia is practically unchanged, and the patient's general condition is much the same as in the foregoing description. There has been little headache to complain of, and his mental condition is greatly improved, in fact, quite sane. No more blisters have appeared, but there has been for some weeks an ugly, painful, sloughing ulcer over the left external malleolus, due probably to trophic disturbance. With the appearance of the blisters there was a fluid effusion into the knee-joint, which *hydrops articuli*, like the blisters and the ulcer, was also probably due to nutritive disturbance. The bladder is now retentive. The patient has been taking daily two teaspoonfuls of a saturated solution of potassium iodid and sufficient mercury to touch his gums.

On November 4 the final notes for this report were made: The patient has regained much of the lost use of his arm and leg, this improvement in his condition being marked and encouraging. The slow, thick speech has gradually disappeared, and the normal returned. The therapeutic test in diagnosis has been corroborative, because, since the potassium iodid has been exhibited, the nodular swelling on his shin was almost wholly disappeared. No less significant is the nonoccurrence of a fit!

The causal relationship of syphilis to epilepsy has long been a perplexing question, and may be said at present to be as much *sub judice* as ever. Fournier's opinion as to whether syphilis can cause epilepsy independently of the agency of organic brain disease is on the affirmative side, while Gowers' opinion is on the

contrary. Fournier, like many other syphilologists, may have the bias of specialism. Be that as it may, there is a great disagreement of opinion as to the rôle played by syphilis in the causation of epilepsy. Fournier, in a lecture delivered in '88 (*Gaz. des Hôpitaux*), briefly stated his views as follows: "Epilepsy is an extremely rare accident in secondary syphilis and presents great diagnostic difficulties to the physician not aware that epilepsy may be a manifestation of the secondary period." He cites cases to substantiate his opinions and then goes on to say that it is probably not a true, but a pseudoepilepsy, a symptom merely of secondary syphilis, not a distinct disease entity, and that it is benign and curable, differing from the epilepsy of tertiary syphilis, that is, the epilepsy of cerebral syphilis, which is an epilepsy of the greatest gravity. He concludes by stating as his opinion that syphilis may produce convulsive crises more or less analogous to, sometimes identical with, those of epilepsy, which can be cured by proper antisiphilitic treatment. Discussing syphilis in causative connection with epilepsy, Gowers states that: "Convulsions are very common in cases of syphilitic brain disease, syphilitic tumor and chronic meningitis. Such convulsions may recur in chronic course and may persist after the original disease has been rendered quiescent by treatment. The cases which present them are often called 'syphilitic epilepsy'; but they differ pathologically from the cases to which the term 'epilepsy' is strictly applicable in that postmortem there is found to be visible organic brain disease, chronic meningitis or a cicatricial growth. In most cases the convulsive attacks have the deliberate march and limited range characteristic of those due to organic brain disease, of which there are usually other indications." Continuing, Gowers asks: "Does syphilis cause epilepsy independently of the agency of organic brain disease—by such an action of the syphilitic poison upon the nervous system as eludes discovery by the most careful naked-eye and microscopic investigation?" and replying to his own question, he says: "Fournier has maintained that it does; that in the early period of constitutional syphilis a morbid state of the nervous system is induced by the influence of the syphilitic poison, and that this morbid state may be manifested by various functional derangements, as epilepsy, hysteria and chorea. He (Fournier) asserts that 'secondary' epilepsy is without visible lesions, while 'tertiary' epilepsy results from organic brain disease." Gowers disagrees with that assertion and states that organic disease, especially meningitis, is not rare in the early

period of constitutional syphilis, and that in most cases of convulsions occurring during the secondary period symptoms of such organic disease may be found. "A few cases commencing in the early stage have the aspect of idiopathic epilepsy, but in most of these, other causes, such as inherited predisposition, can be traced, and it seems unjustifiable, in an inquiry into causes, to regard the preceding syphilis as more than a coincidence in such cases." Gowers does not deny that if constitutional syphilis acts as a cause of epilepsy independently of organic disease, it may be effective on patients with inherited tendency, the epilepsy being the result of both influences. Osler dismisses the subject with a word, asserting authoritatively that "there is no reason for recognizing a special form of syphilitic epilepsy." Hirt's attitude in this discussion is certainly tenable and safe, and must surely be supported by a preponderance of observation and evidence. It is a temperate view of the whole question, and is as follows: "There is no doubt but that hereditary neuropathic tendencies increase the susceptibility to nervous diseases in general, and certainly to epilepsy; but this heredity alone does not suffice to make of an otherwise healthy individual an epileptic. For this usually an additional cause is needed, as, for instance, syphilis. If an individual with hereditary tendencies acquires syphilis, he is more likely to become epileptic—that is, to suffer from a genuine epilepsy which is neither preceded nor followed by any appreciable anatomical changes either in the brain or in its vessels than a person infected with the same disease but burdened with no family history. Of course, there are other cases, too, of cerebral syphilis with the characteristic arterial disease in which epileptic attacks occur entirely independently of any heredity."

In conclusion of the report of the above case, which, because of its very probable syphilitic causation, is of more interest than ordinary rank-and-file epilepsies, something should be said concerning the seat of the lesion.

While it would be venturesome to assert its exact situation, there need not be much hesitancy of opinion as to its probable location. It is unlikely that it is seated anywhere but in the motor cortex. A destructive lesion located in the deeper regions of the brain and obstructing the motor pathway would cause irreparable damage to the severed transmitting fibers, as the repair could not of necessity be a regeneration. On the other hand, the damage done by that lesion of common occurrence, a gummatous meningitis, such not destroying, but pressing upon,

the cortical motor areas, would not be impossible of repair, since absorption of the products of a gummatous inflammation would remove in some degree the pressure holding in abeyance the function of the motor areas involved in the lesion, and would commensurately restore that function and with it the use of the paralyzed muscles.

In connection with the foregoing case another one of epilepsy suspected during life of being syphilitic and proved to have been such at the autopsy held by Dr Ohlmacher, to whom I am indebted for the clinical and autopsy notes, should be at least briefly recited, being *apropos*.

The patient was a negress, married 16 years but childless. She had had four miscarriages. She was admitted to the Ohio Hospital for Epileptics, May 30, 1900, four months after the onset of her epilepsy, and had had during that time two attacks, the first a single fit, and the second a series of 12. A slight left facial paralysis followed the second attack. During her life at the Hospital she had several fits, which were of the *grand mal* type. Headache was complained of daily and frequently dizziness. The patient was imbecile, but at times much less so than usual. She held her head back and bent toward the right side, and her left arm as though in a sling. Some days before her death she remarked a numbness of the left side of her face, saying that it felt paralyzed. She could move it, however. Inability to taste with the left half of her tongue was also complained of. It was hard for her to protrude or move her tongue, and she said that it felt stiff. Walking was easy, and movement of the upper extremities was free. During the last three days of her life she complained of feeling very bad, much worse than usual, but no unfavorable change was noticed. On the day of her death (Nov. 14, 1900) she ate her breakfast, but was unable to feed herself as well as usual; was about the ward until 11 o'clock, and then lay down on a sofa. When the attendant went to call her for dinner she was dead. There was no evidence of a death struggle.

The following postmortem notes are chosen because of their direct bearing: The scalp is thick, and stripped off, a rough skull-dome is revealed, which presents exostoses looking like flat, roundish plates. The calvarium weighs 970 grams (2 pounds+); and is 1.7 centimeters thick in front, 1 cm. behind and .5 cm. on the sides. Its internal surface is corrugated and nodular, the nodules having the size of beans. The brain weighs 1490 grams, and the dura sticks to the calvarium in front of the ear-to-ear line. There is no excess of subdural fluid; but a very profuse bleeding followed

cutting across the posterior end of the longitudinal sinus. The pituitary body is sunken into its fossa, and resembles a collapsed sac. The *sella turcica* posteriorly is roughened. The maxillary sinuses yielded a seropurulent fluid. Both common carotids are intact, but the right middle cerebral artery is collapsed and apparently obliterated. There is a great excess of intraventricular fluid, which is slightly cloudy. The foramen of Munro is widely dilated. The right *corpus striatum* at its anterior part is softer and more collapsed than the left. The right cerebral hemisphere in the region anterior to the Rolandic sulcus is encased in the greatly thickened and closely adherent dura, which over the lateral and basal aspects of the right frontal lobe is especially thick, being 1 to 1.5 cm., and blends closely with the pia, also thickened. On incising this part of the brain the superficial layer of the cerebrum is found to be invaded by the same newly-formed tissue increasing the thickness of the dura and pia. About the base of the brain the dura adjacent to both right and left frontal lobes is thickened, and the olfactory, the optic and the oculomotor nerves are compressed by the thickened dura. The thickening of the dura is due to the formation of a dense, white, scar-like tissue, which in places shows a tendency to caseation and necrosis. This proliferated tissue shows histologically all the characteristics of a syphilitic granuloma, being largely composed of endothelial cells, plasma cells, and fibroblasts. The superficial layers of the cerebrum, particularly of the frontal lobe, are invaded by this syphilitic new growth. The autopsy unmistakably discloses a series of syphilitic lesions, the most prominent ones being a productive osteosclerosis of the cranium, a gummatous pachymeningitis and leptomeningitis, and an obliterating endarteritis of the right middle cerebral artery with consequent anemic softening of the right *corpus striatum*. The other suggestive anatomic findings were gummata of the liver, three fibrous and caseous nodules being found therein. It is justifiable to regard the case as one of syphilitic epilepsy of recent origin, in which the epilepsy was incited by the pressure of the gummatous meningeal thickening, the pressure upon and the irritation of the cerebrum being analogous to that caused by a foreign body or a tumor.

It may safely be said that these two cases considered separately are interesting and instructive, but considered jointly they are much more so, because in their respective aspects they each furnish an unmistakable demonstration of their syphilitic character, the former therapeutic, and the latter anatomic.

A Case of Lead-Poisoning and Epilepsy, with Remarks on Saturnine Epilepsy*

BY W. C. GILL, M. D., GALLIPOLIS

Assistant Physician at the Ohio Hospital for Epileptics

Unfortunately the case we present is not absolutely proven to be one of saturnine epilepsy as we hoped it was. On careful inquiry it appeared quite probable that the epileptic fits preceded the lead-poisoning.

Previous History: This man, 34 years of age, was admitted to the hospital about four months ago on the urgent solicitation of the county authorities, by whom he was confined in jail and where he was causing a great deal of trouble on account of acute dementia following a number of epileptic seizures. Since his admission here he has given no trouble, and is a model patient.

The history he gives is rather conflicting, as he contradicts himself often, and his statements are not accurate. He says his mother has told him that he had convulsions when he was two or three years old, but not so severe as they are now. After babyhood he claims to have had no more attacks until he was 16 or 17 years old.

He has had measles, whooping-cough and rheumatism. One of his brothers had convulsions when a baby, and an aunt on his mother's side had epilepsy. His father and mother are living and well; otherwise the family history is negative.

When 14 years old he worked through the summer in his father's paint shop, and during that time he had two attacks of painter's colic. In the fall he returned to school and remained there till the following summer, when he went back to the paintshop and learned the trade. That summer he had a third attack of lead colic. He had been working at his trade about two years, when he had a severe epileptic fit while painting. Soon after this his right arm and then his left one began to get weak. It was not long before he had to give up work on account of inability to use a brush. Both arms became progressively weaker, and muscular atrophy developed, with wrist-drop. His right leg also became weaker and he says that his knee would give way, and he would fall. He was confined to his bed for some time and could walk only with assistance. There was, however, no atrophy of his leg.

*Read at the meeting of the Gallia County Medical Society held in the Pathological Laboratory of the Ohio Hospital for Epileptics, November 6, 1902. together with an exhibition of the patient

He claims that he has been unable to hear in his right ear since his paralysis occurred.

Physical Examination: He has a small frame, well developed. The skin is moist and elastic. There is no jaundice or edema. The muscles are firm. The right shoulder droops slightly. The mucous membranes are pale; the tongue is coated; there is no blue line on the gums.

His heart is slightly enlarged; the upper cardiac dulness is at the third rib; the apex is in midclavicular line in fifth interspace; the right border is at the midsternal line; the apex beat is forcible, and the heart sounds are clear and distinct; there are no murmurs. Hypertrophy of the heart is characteristic of lead workers.

The abdomen is full and rounded; the liver, spleen and kidneys are not palpable; there are no glandular enlargements; the patellar reflex is slightly increased. There is no ankle clonus. His wrist-drop has nearly disappeared, and he has good movement in the joint. He is unable to extend his fingers fully or to bring his thumb to his index finger. He can supinate his arm but not as much as normal.

This man exhibits quite a typical case of lead palsy, the muscular weakness developing first in his right arm and then in his left; later the atrophy of the muscles of his shoulders and arms and the occurrence of double wrist-drop. Ataxia of the lower extremities is a rare complication, and this patient is still troubled with it to a slight degree. When he walks any distance, his leg will suddenly give way and he will fall to his knees, which are usually sore from striking the ground.

A few cases of ankle clonus and increased knee-jerk have been reported in lead poisoning. This morning it was possible to get a markedly increased knee-jerk, but I am unable to get any at all at present. The man is evidently embarrassed, and his muscles are tense.

Remarks: With a vague history of former epileptic attacks and a family history of epilepsy, we can hardly claim this as a case of saturnine epilepsy. Heredity is undoubtedly one of the most important factors in the causation of epilepsy, and most authorities claim that a hereditary history can be obtained in from 30 to 40% of cases.

Lead-poisoning is at best a very rare cause of epilepsy. Out of 2,175 cases admitted to this hospital, lead-poisoning is given as a cause of epilepsy in only two, and in one of these it is given as a remote cause. The other case is that of a carriage painter

who had worked at his trade for 10 years when he had an attack of lead-colic. He immediately changed his occupation, and about nine months later he had his first epileptic seizure. This man is a neurasthenic, but has no hereditary history of epilepsy. The relation between his attack of colic and his fit seems rather uncertain. This man went a year before he had a second attack, after which they became more frequent and he now has several every month.

Osler says that epilepsy is not uncommon in lead-poisoning, and in every case of epilepsy beginning in the adult lead-poisoning should be thought of, but our observation in this institution, in which we have had access to a great many cases, leads us to believe that it plays a very small part in the production of epilepsy. This is more in accord with Gower's statement that epilepsy may sometimes result from chronic lead-poisoning, and that plumbism occurring in an adult renders the epileptic attacks more severe. He cites a case similar to ours in which epilepsy had existed in infancy and became worse when plumbism developed. Our patient says that he used to have his attacks every month, and that they gradually became more frequent and severe. Previous to his admission here it is stated that he had one or two *grand mal* attacks every week, but he has only had a few slight attacks since.

Dana passes over the whole subject of saturnine epilepsy by saying that toxic agents, such as lead, are said to cause epilepsy. Hirt is a more outspoken advocate of the direct bearing of plumbic intoxication upon the production of epilepsy.

Annual Address of the President of the Academy of Medicine of Cleveland

F. E. BUNTS, M. D., CLEVELAND

In 1801, or just a little over a century ago, John Bell, the great Scotch surgeon, published "The Principles of Surgery," and now, as we are finishing the first year of another century, I thought it might prove not only interesting but possibly profitable to physicians and surgeons alike, if I ventured to call your attention to some of the precepts and practices of one of the best surgeons of that age, and by comparing them here and there with the practice and theories of the present, form some conception of how much, or how little, we had gained in 100 years, and perhaps make us realize what we are too liable to forget, the extent to which we are indebted to the master minds of a century ago.

How well John Bell understood the importance of looking back to view the accomplishments of others may be judged by the following quotations: "The truth is, that the practices and prejudices of the old times mix themselves with the more orderly and perfect operations of the present day, and this is a subject of study which we must not neglect. Is it not most unaccountable to see men among us expecting to excel in a profession which they have not studied, eager to be known as improvers without having ripened their minds by studying the inventions of others; vain of their opinions, practices and pathologies of diseases, in which they are often excelled and anticipated by authors which they have never read? Many a busy creature do we see proclaiming as fine inventions of his own, instruments or operations which have been described, drawn, commented upon, condemned, neglected and revised again, centuries before this new inventor of old things was himself born. Whoever has thus neglected to study the history of our profession has a narrow mind, and prefers the little opinions of his particular master to the accumulated wisdom of ages." One might fear that he placed too much faith and reliance upon the ancients, and that it might hamper him in his own career, but a few lines further on we find: "There is in the history of our science much to amuse us, but there is much also to bring us back to a sober thoughtful state of mind," and, "when I tell you to despise authority I shall at the same time tell you to respect science and to cherish in yourselves a love of truth, and ardor in study, a proud opinion of your profession, and a sincere diligence in all the duties of it."

Would it be possible for the most enlightened minds of our profession today to voice more lofty or inspiring sentiments? I think not; and that a becoming modesty among notable operators and authors of today has not been entirely lost may well be surmised when I quote from the most recent work on Clinical Surgery the author's statement that he lays no claim to the invention of a single new operation, nor has he produced a new or modified instrument, but has contented himself with applying to his surgical work what seemed best in the practice of the surgeons past and present.

I cannot pass on to the consideration of some of John Bell's Principles of Surgery without dipping a little deeper into his preliminary discourse to catch a still clearer view of the depth and breadth of his views. Naturally, in those days when the field of operative surgery was greatly limited, it was in military surgery that the operator found his broadest opportunities, and we find

Bell advising that the situation of the military surgeon is more important than that of any other.

“What part of education is there, needful or even ornamental, for the surgeon living at his ease in some rich luxurious city which the military surgeon does not require?”

“The very men who are now the chief authorities in surgery, who alone of all the writers of the last age are admired and appealed to, were bred in this school. Petit, Garengeot, Dionis, Heister, LeDran were the Army Surgeons of France, and learned in the field that surgery from which the trivial books of the present day are immodestly and poorly copied.” And so it was with the great English surgeon Weismann and that greater French surgeon Paré, of whom it is said that the princes and generals of France willingly took the field when they could prevail upon Paré to go out along with them.

This preponderance of importance of military surgery in those days over the same today shows, perhaps, as clearly as any other suggestion, the recognized limits of the surgeon of 100 years ago. Then, the great operations were those caused by the accidents incident to warfare, fractured skulls, shattered bones, severed arteries, and their resulting aneurisms, crushed and mangled limbs, and now and then with unusual boldness they followed the projectile or lance or saber wound into the hidden cavities of the abdomen, thorax, and brain. I do not mean to say that these were all, but they were the chief and best established fields of operation.

The scorn which John Bell had for those who entered unprepared upon the major operations of surgery may be judged when we read: “In cities, indeed, we see untaught men operating upon their fellow creatures in cases of life and death, in aneurism, lithotomy, hernia, trepan, without the slightest knowledge of the anatomy of the parts, much less any right idea of their conditions, and new relations to each other in the state of disease. Those very men who sit down deliberately to perform operations they have never tried, if they were requested to do any trifling thing in the most ordinary matters would never scruple to say, ‘I have not tried it!’” Yet, these imperfect workmen in our trade daringly practice upon their fellow creature, performing on him, with profane hands, operations which they have only heard of, or perhaps read about, and that not much! Which they have never performed upon the dead body. It looks as if they threw aside all conscience, all humanity, all feeling towards their fellow creatures, and said within themselves, ‘the blood and the cries will hide everything that is wrong.’” These words of a century ago are,

unfortunately, almost as true today as they were then, the only difference being that the danger limit has been extended, new, and then unheard of, operations have been introduced, and there are still many who do not consider a hospital training, or a surgical apprenticeship, or a post-graduate course of instruction necessary to qualify them to practice daringly upon their fellow creatures.

Those of us who have not made a special study of pathology, and who have connected its growth and importance largely with its present-day advancements, may be surprised to find John Bell writing with the most emphatic affirmation of its value a century ago.

"Pathology is at once the most useful and the most painful study; there is a sort of satisfaction in finding our conjectures confirmed, our errors corrected, our knowledge continually improved by frequent dissections; but the frequent dissection of dead bodies, the act of reasoning and reflecting on the various causes of our dissolution, the sight of the dead and the recollection of their last struggles and sufferings, the slow lifting up of the cloth which veils the countenance of a deceased friend, casts a gloom over a mind seriously engaged in those duties. Yet so important is the duty of combining pathology with surgery, so essential is it to the sound doctrine and discipline of science, and to the perfection of our art, that I had rather publish to the world descriptions of diseased urethra, and swelled prostate, such as Hunter has delivered and represented in drawings, than be author of all the discoveries of the age in which he lived; I had rather give descriptions and drawings of the herniary sac, in its various stages of inflammation and adhesion, or point out anything which might facilitate so eventful an operation as that for hernia, than discover the perennial mysteries of the thymus or renal gland. I had rather announce a series of such important facts, than shew myself the most ingenious among the dreamers of dreams, for of such materials is produced the knowledge the most essential to the perfection of our art and the good of our fellow-creatures.

"Pathology or the diseased states of the human body, must also be with you a principal study, for that will serve as the basis of well-founded confidence in yourselves and of inexhaustible resources in occasion of difficulty or pressing danger. Do not let any man persuade you that theories are of no avail. The comparing of diseases and wounds with the natural form, sound constitution, and healthy actions of the parts, forms a kind of theory which will not deceive you; and while you are studying such subjects, you are digging for the hidden gold which you

will surely find, though not in the exact place or form in which you expected to find it."

I imagine that the chair of pathology in any of our colleges would not ask a more unqualified endorsement of its work or of its importance to students beginning this study.

In the days of Celsus the qualifications of a surgeon were summarized as the *bonam formam, oculos claros, manus firmas, digito gracilis*, but Bell deemed these to be rather directions for choosing a nurse or a paramour. "Yet many an awkward fool, when he was writing such silly things, thought he was describing his own fine parts and pretty person." "I would have you dwell with confidence on this, that all that is essential to the character of a good surgeon may be acquired, for be assured that dexterity and boldness follow judgment and skill as closely as the shadow does the substance. But boldness is a seducing word and the passion of acquiring character in operations is full of danger. Believe me those qualities which relate to operations and the public exhibitions of skill are of a very doubtful kind, while the duties of humanity and diligence are far more to be prized. Mercy and tenderness toward his patients and every kind of charity are the chief virtue and most becoming ornaments of a surgeon. Respect yourselves, deserve well of your country and all those who are around you will be sensible that you are deserving; refrain from complaints which will but burden your enemies and disgust your friends."

These preliminary remarks show very clearly the high and ethical view which John Bell held regarding his profession and are just as pertinent today as they were when he wrote them.

In looking over the "Principles of Surgery" it is difficult to pick out illustrative parts. It is so systematic in its form that it seems almost essential to touch at least in some degree upon almost every part. The doctrine of primary adhesion, or union by first intention, which up to 20 or 30 years before this time had been so discredited that one writer, O'Halleran, says, referring to the statement of the French surgeons that adhesions often take place in three days, "I would ask the most ignorant Tyro in our profession whether he ever saw or heard even of a wound, though no more than one inch long, united in so short a time." These tales are told, he adds, with more confidence than veracity. Such healing he considered "opposite to the rules of nature." Of course Bell was an enthusiastic believer and advocate of this newer practice of surgery, and says that if surgery be indebted to any particular person for the invaluable improvements which

this doctrine of adhesions has brought along with it, it is to Mr Hunter and the London School. In the union of wounds we find him insisting upon the importance of intimate contact of like tissues, bone to bone, muscles to muscles and skin to skin, a truth which has found its modern expression in the use of the buried suture, and the layer suture. This method of suturing did not seem to be practised at that time, being largely the product of modern antiseptic surgery.

I cannot refrain from quoting from Bell as to the treatment of lacerated wounds: "There are certainly cases where it were a folly to use the needle, especially where parts are too much lacerated to lie equally together, too much bruised to escape suppuration."

"We cannot expect that all disordered parts should adhere, but yet a partial adhesion is often of much importance, and may save the part, and though we cannot with any degree of prudence use the needle,—the regret of not being able to use it rests upon one's mind. We try to make up for this by laying the parts smoothly together with soft sponges, and little bundles of lint; we also apply slips of lint dipped in spirits; but no poultice."

This advice was given 100 years ago, and the modern moist antiseptic treatment of lacerated and contused wounds found its prototype in the slips of lint moistened in spirits, and yet today, here in this city, in the country, everywhere, physicians, and sometimes surgeons, are persistently sewing up lacerated wounds that cannot be thoroughly cleansed, *counting* the number of stitches inserted as a measure of the gravity of the case and of their professional skill.

It is unfortunate that this principle of surgical treatment has not yet been engrafted upon the greater body of our profession, and still more unfortunate that the warning against the poultices has so long remained unheeded. Either stitches or the poultice, seems to be the dogma to which many still cling.

I have no hesitation, for my own part, in saying that there is no open wound of whatever kind that should be treated by the "old-time" flaxseed poultice. Modern surgery recognizes the value of heat and moisture, but it recognizes that they are the requisite of germ growth, and that to offset their evil effects they must be combined with an antiseptic in the form of an antiseptic fomentation.

In wounds of the belly and breast, he says, "It is adhesion of the parts inwardly wounded which saves the patient. It is

quiet, perfect silence, and composure, and the natural powers, that bring about this adhesion. You lay the mouths of the wound gently and softly together; you await patiently the event of this natural process;—you can do little to assist, but you must do nothing to disturb this process.”

“Many a patient died in the times of the old surgery, by their thrusting tents into the wounds of the belly and breast, and even now we are too apt to disturb and do harm by a momentary and too curious probing of such wounds.”

In contrast with this, I quote from a modern Text-Book of Surgery, referring to wounds of the abdomen: “When the abdominal cavity has been penetrated, the wound should be enlarged sufficiently to permit satisfactory demonstration of the conditions of the intraabdominal organs. The treatment requires exploration in all cases.” This great advance is due alone to antiseptic surgery, and in its absence, or inability to provide suitable surroundings and competently drilled aseptic or antiseptic surgeons, the advice of John Bell is the very best that could be given today, and the “momentary and too curious probing” of this class of wounds, as well as of many others, means often disaster to the patient.

Speaking of the cure of ulcers, it is somewhat surprising to find John Hunter taking ground as to the nature of the inflammation that has only been reached in the last few years of our own time. All of us can remember that a certain degree of inflammation was thought necessary for the repair of wounds or other injuries of the bones or soft parts. And even yet, not all are prepared to say that this process of repair is not due to inflammation, but to regeneration, and that inflammation is always to be regarded as the evidence of infection, and therefore destructive and in no sense reparative. He recognized this fact years ago and says, “That healthy but strong action which restores wounded parts, by producing adhesion, we have been long accustomed to consider as a stage of inflammation, of course has been understood to perform, or at least to assist the cure of wounds. But I have ventured to protest, that inflammation is unequivocally and always a disease; that it is inflammation alone that prevents the cure of wounds, or converts a wound into a sore.”

The treatment of fractures attracted Bell’s very careful and thoughtful attention, and so thoroughly did he appreciate the disadvantages of the ancient method of applying bandages directly to the fractured limb, that he went to the other extreme, and in

some instances almost entirely discarded them, using pillows and light pasteboard with tapes to hold them in position. Then, as now, the treatment of a fractured thigh was not altogether satisfactory. They, too, recognized the necessity of extension and counter-extension, but the modern weight and pulley is only applicable through the agency of the modern surgeon's adhesive plaster. Bell aptly says, "Have not the surgeons of all ages used this permanent extension? Have we not machines and bolts innumerable? Have we not the ancient Greek windlass and ship-block, the invention of Archimedes, which he himself has dignified with the title of 'Glossocoma?' Have we not the Jackstone of Hildanus? Have we not the machines of Mr Belloq which, like the ancient Glossocoma, could be laid in bed with the patient?"

And yet, notwithstanding these "Wonder Working Machines" and *chefdæuvre's* of surgical inventors, Bell treated a fractured thigh by placing it at rest on a pillow. It is interesting to mark as an evidence of the effect of antiseptic surgery, that in the discussion of fractured vertebrae, he says, "Notwithstanding the bloody operations described in books, of making incisions, finding the fractured or luxated bone, and drawing it out by the spines or splinters, there is nothing practicable, and those very ignorant directions given upon the highest authorities, are dangerous to none but boys. The cutting into the fractured vertebra is a dream."

Like many another dream of the ancients, this dream has at last come true, and under reasonable precautions, the cutting into the fractured vertebrae can be performed with safety, and oftentimes with great benefit to the patient.

It is to be regretted that the principles of surgery, as expounded by John Bell, covered so little ground, inflammation, hemorrhage, adhesion, and fractures practically completed the list, for we find the remainder of his books filled with the most elaborate historic accounts of aneurisms and operations for stone in the bladder; but such parts as he has covered, have been so thoroughly and logically and eloquently presented as to call for the admiration of the present-day student, and to inspire him with a love and admiration of a profession which could, 100 years ago, have called forth such an enlightened and high-minded exponent.

The Chemical Characters of the Fluid of a Cystic Kidney

BY TORALD SOLLMANN, M. D., CLEVELAND

From the Pharmacologic Laboratory of Western Reserve University

The kidney was removed at autopsy by Dr W. T. Howard, Jr., and was submitted to me on November 14, 1898. The organ contained very little renal substance and consisted almost entirely of cysts, varying in size from a bullet to a hen's egg. Over 400 cc. of fluid was obtained from the cyst of this one kidney. The condition was probably congenital. No satisfactory examination of the urine was made during the life of the patient.

Physical Characters: The mixed liquid is very opaque, of a chocolate color and possesses a putrid or fecal odor. It has an acid reaction.

Microscopic Examination: The centrifuge brings down considerable sediment, but without clearing the liquid. The sediment consists mainly of very granular mononuclear cells and of detritus. There are also some rounded epithelial cells, a little blood and some cholesterin. Numerous irregular granular pigmented masses of various sizes are conspicuous.

Chemical Examination—Proteids: Coagulable proteid is abundant. The spectrum shows a line in the red indicating acid-hematin or methemoglobin. The filtrate still gives a good biuret reaction proving the presence of albumose or peptones. Mucin and nuclealbumin are absent.

Other Constituents: The acidity is not due to lactic acid. The ethereal extract is neutral so that the acidity must be due to an acid salt. Neither urea or sugar could be demonstrated.

NOTES

1. *Peritoneal Cyst of Chicken:* A number of these cysts were attached by a slender pedicle to the peritoneum. They were globular, of the size of a walnut, and consisted of a pellucid sack filled with a clear fluid of a light straw color. An interesting feature of this fluid is the presence of a small amount of mucin.

2. *Fluid V:* The *freezing point* of this fluid is 0.541°C , or about that of normal serum.

3. The discharge from the fistula altered after a time and then contained trypsin. The case was reported by Dr C. A. Hamann in this JOURNAL (January, 1902, page 36).

TABULAR ABSTRACT OF ANALYSES OF FLUIDS FROM EIGHT ABDOMINAL CYSTS

By TORALD SOLLMANN, M. D., Cleveland
From the Pharmacologic Laboratory of Western Reserve University

The following brief data are of interest in showing the usual chemical nature of these fluids:

Case No.	Character of the Fluid	Reaction	Specific Gravity	Total Coagu- lable Protein	Albumin Globulin	Fibrin	Nucleo- Albumin	Sugar	StarchSplitting Ferment	Proteolytic Ferment
I	Serous, clear, con- tains cholesterolin.	Slightly alkali- line.....	1.025	6.5 %	1.37	None	None	None	Fair amount	None
II	Serous, clear.	"	.....	5.2 %	Both present	Present	None	None	.....	None
III	Serous, milky white	"	1.009	Abundant	Globulin rela- tively more abundant	.....	None	None	.....	.....
IV	Probably sarcoma- tous, cellular.....	Amphoteric	1.036	Abundant	Both present	.....	Present	None	Slight amount	None
V	Serous, clear.....	Slightly alkali- line.....	Note 2	2.7	0.18	Present	None	None	.....	.....
VI	Serous, with some suspended blood..	"	1.021	4.26 %	2.95	None	None	None	None	None
VII	From pancreatic fistula, clear and colorless .....	"	.....	Abundant	.....	None	None	Trace	Slight amount	None (Note 3)
VIII	From peritoneal cysts of chicken... (Note 1)	"	.....	Trace	.....	None	None (Note 1)	Trace	.....	.....

SUMMARY

The specific gravity varies between 1.009 to 1.036. The reaction is always slightly alkaline to litmus. Globulin and albumin are always present. The amount of total coagulable proteids varies between 2.7 and 6.5 gm. in 100 cc. The ratio of globulin to albumin is as one to 0.18 to 2.95. Fibrin is sometimes present, sometimes absent. Mucin was never found in the human fluids. Nucleoalbumin was only present when the fluid was very cellular. Sugar was usually absent. Proteolytic ferments were never found. Amylolytic ferment was quite common.

The Symptoms and Diagnosis of Rhino and Laryngeal Diphtheria

BY E. L. MATHER, M. D., AKRON

Cases of diphtheria frequently begin and terminate by involving only the larynx. In its local manifestation it is unusual, however, to see a case of rhinodiphtheria without more or less involvement of the pharynx. The diagnosis of these types is made by careful consideration of the symptoms and a bacteriologic examination for the Klebs-Loeffler bacillus.

The first symptom of laryngeal diphtheria is perhaps cough, slight, sharp and clear, not causing much uneasiness in the beginning, while the child continues its play as usual. The cheeks may be slightly flushed, the eyes brighter than usual, the appetite good; there may be slight or no fever, and the bowels are regular.

The cough, however, is persistent and constantly grows tighter, higher in pitch, and finally assumes that peculiar croupy, metallic ring which, once heard, is not forgotten. The breathing, at first not obstructed, gradually becomes noisy and difficult, with marked cyanosis, and the child's entire attention is soon given to the effort to supply its system with sufficient oxygen. The voice becomes hoarse, and is finally lost. The expression of the face is changed to one of anxiety and longing for relief. The eyes follow every movement of the nurse or parent in mute appeal for help. The efforts to speak, drink or eat, are made only at infrequent intervals and with great reluctance, the child fearing to lose any time by allowing anything to interrupt its breathing.

The rate of respiration is gradually increased, the cyanosis constantly increases, restlessness becomes a prominent symptom, and the child is not satisfied to remain quiet a moment. It can

no longer lie in a recumbent posture, but sits upright, with the head slightly thrown back, body forward, while the sterno-cleido-mastoids stand out as prominent cords. The infra and supra-clavicular spaces sink with every inspiration, the pulse is accelerated, but the temperature is seldom high. The abdomen assumes a scaphoid shape at every inspiration; toxic poisoning is not marked. Albuminuria is present and is as constant a symptom as the Klebs-Loeffler bacillus, and as diagnostic, if other causes can be excluded. It is invaluable, moreover, as a help to diagnosis, if the case is so situated that a bacteriologic examination cannot be made, or if it would involve a loss of valuable time. The test for albumin is simple, and with the facilities always at hand, it can be made at once, while a bacteriologic examination cannot always be obtained, especially in the country. Attention was first called to albuminuria as a symptom in diphtheria by Wood, of Birmingham, in 1857, but its presence has not been valued as highly as it should be as a diagnostic symptom. A rash is frequently present; coma and convulsions are not infrequent.

A laryngoscopic examination in a child is difficult, but when possible the aryepiglottidean folds, ventricular bands, vocal cords, and often the subglottic membrane and, not infrequently, the inferior surface of the epiglottis will be found covered with a false membrane of a grayish-white appearance. Infiltration and edema of the child's larynx is much greater than in an adult because of the loose character and redundancy of the connective tissues underlying the mucous membrane. It thus becomes easy to understand why dyspnea is so prominent a symptom in children.

The appearance of an adult's larynx is much the same, except that the connective tissue is much firmer and far less redundant than in a child's, therefore the infiltration and edema are much less marked. If the patient be a child, the condition of the little sufferer constantly grows worse, and the frightful picture of a child choking is soon ended by death.

Differential Diagnosis: Acute laryngitis may be mistaken for diphtheria, but in this disease no false membrane is present, and the onset is sudden, usually following damp, foggy weather, more frequent in spring and winter, never involving nose or pharynx. It invariably attacks the child at night, and is accompanied by a hoarse, dry, croupy cough, followed by marked amelioration of the symptoms the following day, with a recurrence the following night. A marked rise of the temperature is rarely present, and the pulse generally remains nearly normal. Edema of

the glottis may cause marked dyspnea, and aphonia, but the other symptoms of diphtheria will be absent.

Among the first symptoms in the nasal type are recurring attacks of epistaxis, some stenosis and a mucous discharge; later the cervical glands become enormously enlarged, on one or both sides as the disease is either unilateral or bilateral. The discharge from the nose is tinged with blood and is extremely irritating, the vestibules and the upper lip becoming rapidly denuded, while mouth-breathing is necessarily a prominent symptom. Stertor and a very offensive breath are present; earache is common. The temperature is generally high in the nasal type, frequently 105° F. The typical diphtheritic membrane is found on the septum and lower turbinate bones. Albuminuria is a diagnostic symptom. The Klebs-Loeffler bacillus is present, and casts from the interior of the nose are sometimes thrown off.

Differential Diagnosis: The only disease, possibly, which would be mistaken for this type is rhinitis fibrinosa, but in this disease no involvement of the pharynx is ever present, no Klebs-Loeffler bacilli are found, marked constitutional symptoms are not present, and there is no involvement of the cervical glands, the last named being one of the best objective differential symptoms, except the test of the urine for albumin, which is never present in fibrinous rhinitis, unless due to some concomitant cause. Of course if Klebs-Loeffler bacilli are found the diagnosis is at once made clear.

Section of Experimental Medicine—Cleveland Academy of Medicine

The second regular meeting was held on December 12, 1902, with Dr G. N. Stewart in the chair.

1. *Dr Torald Sollmann—The Scope and Method of the Section:* Before discussing and adjusting specific By-Laws to the Section, it seems not unfit to discuss in a general manner the objects, scope, method, and uses of this Section. As a starting point for such discussion I venture to present my own views.

I conceive the object of the Section to be an informal exchange of views on research subjects, and its scope to include all such questions of medical or biologic interest as are capable of experimental investigation. These should be treated of by short papers or talks containing critical resumés of such investigations made by the reporter or culled from the literature, or original views and theories about such questions. The papers should by prefer-

ence deal with subjects having a wide and general bearing on medicine. A very general and informal discussion will greatly further the objects of the Sections. Demonstrations of experiments could also be made to form a very valuable adjunct to the work of the Section, and special laboratory meetings for this purpose could be arranged for.

The benefits for which we may look, the result of the work of this Section, will naturally vary somewhat with the standpoint of each of us. For all I expect the acquisition of information and the widening of our mental horizon. Medical research offers a very wide and varied field, and very numerous workers are engaged in its cultivation. Its results are so great and varied that it is impossible for anyone to acquire even a clear perspective of the general advance of the science. It is usually impossible to read in full all the papers which relate to even a very restricted department. Recourse must be had to abstracts; but these abstracts are dead matter to all but the specialist who is well conversant with the department in which they lie. He alone can see the life in them. My idea is, then, that each of us who has made a special study on any experimental subject, should present to the Section the gist of his results in the light in which they appear to him, so that we may all share in the fruits of his labor. I need scarcely point out that these will be of equal benefit to us, whether they have been gathered directly in the laboratory, or in the library.

Such results will be of great value to the specialist, who, by the very conditions of his work, is in great danger of becoming narrow and shortsighted. They are, however, of at least equal value to physicians in general practice, by keeping them in touch with the spirit, methods and results of experimental research. This, indeed, I consider the prime object of the Section: to stimulate interest in research among practitioners, and to enlist their active cooperation in solving the questions of experimental medicine.

To the research-worker I see further special advantages. One is that of obtaining the views of other investigators on the usefulness and feasibility of projected research, and their suggestions as to methods by which these may be furthered. There will also be opportunity for consultation during the progress of the work, and when this is finished, the advantage of a critical discussion of the results before they are published.

To be sure of the greatest benefit from this Section, every

member should feel it his duty to contribute a quota of work. A number of papers have been promised, but there is room for many more on the program. The By-Laws which are proposed by the committee have been made elastic so that special meetings can be readily arranged for, if they are justified by the material presented. It is to be expected that a considerable part of the papers which will be presented before the Section will for the present consist of critical compilations of the literature of experimental subjects. As a hint in the selection of topics for papers of this kind, I will mention some title which, I think, would be of general interest, and which I hope will be taken up by some of the members of the Sections. Such titles are: Recent experimental work on diabetes, alimentary glycosuria, renal disease, eclampsia, rickets, scurvy, albumosuria, on the chemistry of the alkaloids, ferments, toxins, or proteids; on the chemistry of gastric diseases, on the action of toxins, on immunity, on the spread of infectious diseases by bacteria, etc. These titles are merely illustrative of the range of interesting subjects which could be profitably presented to the Section.

It is also desirable that the proceedings of the Section be published in the CLEVELAND MEDICAL JOURNAL. For this purpose I would ask the authors of papers to furnish me with brief abstracts of their papers. These abstracts should not exceed 200 words as a rule.

2. *Dr G. W. Crile*: Resumé of experimental and clinical researches with a tonometer; on the effect of alcohol, nitrates, digitalis, and external pressure in shock. Demonstration of tonometers, of curves and lantern-slides, and of a pneumatic suit.

Following the exhibition and demonstration of the two forms of tonometers used in his observations, *viz.*, the Gaertner and the Riva-Rocci Cushing, the latter of which this observer considers more useful, he detailed the results of certain experiments on animals showing the effects of drugs upon the blood-pressure in shock. These are given briefly as follows:

1. *Alcohol*: When this was given before the shock it was observed that the animals supported the shock less readily than normal animals. When the drug was administered after the blood-pressure had been lowered it produced generally a further fall, and the animals succumbed more readily than the controls. Occasionally the alcohol produced a slight but rather sustained rise of pressure. This result was rare. When the alcohol was given to normal animals it caused usually a slight rise of pressure.

2. *Nitroglycerin and Amyl Nitrate*: When injected into animals in a condition of shock these always caused a further fall of pressure, but this soon returned to or near the previous level. When repeated injections were made it seemed that some degree of tolerance was acquired.

3. *Strychnin and Adrenalin*: These were reported in the previous papers.

4. *Digitalis*: The injection into animals in shock was often followed by an immediate small fall of pressure, but this returned very quickly to the previous level and usually exceeded it. The usual cardiac effects were observed, but the digitalis did not in the most profound cases cause an efficient rise in blood-pressure. The drug was least efficient when the blood-pressure was very low. Experiments on an artificial circulation scheme supported the view that an increased efficacy of the heart has the less effect upon the arterial pressure the more the peripheral resistance is lowered.

5. *Combined Drugs*: The above drugs were administered in a number of combinations. It was found that the practical results were even more uncertain than when the remedies were given alone.

6. *General Conclusions*: The drugs which are usually employed in the treatment of surgical shock are not effective when the vasomotor center is paralyzed. The only drugs which are effective in raising the blood-pressure in this condition are adrenalin and normal saline; both must be given as continuous injections. This introduces grave practical difficulties.

Mechanical Supports of the Circulation: In determining the effect of pressure applied to the surface of the body on the arterial pressure, this observer has shown that the latter may be changed by varying the former; that any degree of pressure within certain limits can be thus maintained for an indefinite time. Bandaging the extremities, resting the pressure in the operating-room and water-bath under pressure were found impracticable, while the use of a pneumatic rubber suit proved very satisfactory, and has been used a number of times with successful result. Tracings illustrating the experiments of the effect of drugs upon blood-pressure were shown by stereopticon exhibition.

Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

Formaldehyd: Dr C. C. Barrows in the *New York Medical Journal* for January 31, states that intravascular antiseptis naturally appeals to the mind of every scientific observer of septic conditions of the blood, and he believes that by the introduction into the general circulation of a solution of formaldehyd of a proper strength the pathogenic germs may be destroyed without injury to the patient. Dr Macguire's experiments proved that it was perfectly safe to inject into the general circulation 50 cc. of a 1 to 2,000 solution of formaldehyd gas, or if reduced to a basis of formalin 50 cc. of a 1 to 800 solution which gave no evidence of blood changes as shown by the blood or urine, and Dr Barrows concludes that the intravenous infusion of formalin in acute streptococcic infection of the blood holds out a fair hope of success, and he used in a case of puerperal septicemia an intravenous infusion of 500 cc. of a 1 to 5,000 aqueous solution of formalin; a second injection of 750 cc. of the same solution was given and recovery followed. Dr Barrows suggests that normal salt solution be used for the dilution of the formalin solution as, although no harm has been done to the blood cells by the infusion of formalin in distilled water, theoretically the normal salt solution is to be preferred.

Lithium: Dr C. A. Good in the *American Journal of Medical Sciences* for February, asserts as the result of experimental study that the lithium salts do not possess any diuretic action that cannot be accounted for by their salt action. They render the urine alkaline and in this act like the other alkalies. Lithium carbonate in 15 to 20 grain doses and lithia tablets have been known to cause gastrointestinal symptoms in man. Dilute solutions of lithium salts are not solvents for uric acid or the urates.

Veratrum Viride: Dr A. B. Isham in the *Medical News* for January 10, states that an extended use of this drug has confirmed his former experience as to its efficacy as an antitoxic, and in grave conditions of sepsis it is one of the most potent remedial agents of the whole materia medica. He has used it in 27 cases of sepsis from various causes, and successful results have followed in all. He usually gives 20 drops of Norwood's tincture hypodermically and repeats in half an hour, generally using 15 drops, should not action be apparent. With the production of vomiting and perspiration the dangerous symptoms disappear. In puerperal eclampsia the results are very satisfactory. He uses Norwood's tincture without dilution subcutaneously, and any soreness following in most instances disappear in a day or two. He further states that cases of profound toxemia demand prompt emesis and the removal of poisonous matters remaining in the stomach. The subcutaneous use of veratrum should be adopted

whenever there are convulsions, high temperature with delirium, suddenly developing acute hysteric paroxysms, or acute abdominal pains due to colic, passage of gall-stone, nephritic or urethral calculi. The complete relaxation of tissue induced by veratrum viride renders it exceptionally valuable for the excruciating pain occasioned by the passage of calculi as well as to promote their passage downward by obviating spasmodic constriction. As a pain reliever it merits more extended trial and may, in the opinion of Dr Isham, come to displace morphin altogether.

Hypodermoclysis: Dr M. Kahn in *American Medicine* for February 7 reports a case of pneumonia in which the patient had a pulse of 160, a temperature of 105.5, Cheyne-Stokes respiration, pronounced cyanosis, and was apparently moribund. The usual agents had been employed, and further medication seemed useless. Hypodermoclysis was then used, about three pints being given within six hours in four injections. The immediate effect was astonishing; the pulse became slower and of better quality, the temperature dropped, cyanosis disappeared, respiration became regular, consciousness returned and diuresis was marked. Rectal injections of the salt solution were given at intervals for two days following, and the patient recovered. The author of the paper believes that the best safeguard against heart failure in pneumonia is to diminish the toxins, and at present this is best effected by the exhibition of subcutaneous salt injections.

Coal-Tar Products: Dr F. Savary Pearce in the *Therapeutic Gazette* for January believes as to the status of the coal-tar derivatives in general nervous affections that there seems to be very little indication for the use of these drugs in organic disease of the central nervous system save to reduce pain and to make the patient more comfortable for the time being. He asserts that in functional disease he has seen patients become subjects of coal-tar derivative drug habits. Antipyrin is the most depressing of these drugs, and acetanilid comes next in order as to depression on the nerve centers, while phenacetin is the drug *par excellence* which will do yeoman service when indications arise. The use of them should always be in accordance with the idiosyncrasy of the patient or feebleness of constitution, and it is well to guard them with diffusible stimulants or caffeine.

An editorial in the *Philadelphia Medical Journal* for January 19 asserts that as an antipyretic in typhoid one-grain doses in some cases produced as much reduction in temperature as five grains, and furthermore, that for the relief of headache two grains are as efficient as five, especially when combined with caffeine. Their value is thus summarized: 1. They are of benefit in proper doses in some cases. 2. They are not to be given to all patients indiscriminately. 3. They are not to be resorted to by the public for the relief of pain whenever and wherever felt. 4. They are to be given in the smallest doses that will produce the desired result.

5. When their action is no longer necessary they are to be promptly discontinued and the patient left powerless to continue them on his own initiative.

Drug Elimination: *Merck's Archives* for January states that relatively few drugs are eliminated through the milk. Belladonna, quinin, strychnin and carbolic acid in full doses nearly always affect the child. Alcohol, opium, iodids, bromids, saline cathartics, rhubarb, senna, castor oil, arsenic, the salicylates, colchicum, copaiba, turpentine and iron are not constant in their action, but may be eliminated in qualities sufficient to cause symptoms in the child. Iodoform readily passes into the lactereal secretion while mercury is excreted only in small amount, and after prolonged administration. Acids, chloral, and most other drugs when taken by the mother are usually without effect on the nursing child. Atropin must be used with great care as it is easily transmitted to the child through the mother's milk.

Chlorosis: Dr C. F. Wahrer in the *Journal of the American Medical Association* for February 7 states as to the value of iron in chlorosis, that there is a flood of iron preparations on the market but few if any come up to the expectation we have from Blaud's mass of the carbonate of iron either as originally made, or compounded with purgatives, also with strychnin, arsenic and sumbul. Special claims have been made for a number of organic forms of iron, but all such are not substantiated, while many of these preparations are inert. In giving iron, a pill containing three grains of Blaud's mass may be given after meals, and this amount gradually doubled or even tripled. Even though we know all of this is not absorbed, yet it is best that sufficient be exhibited to supply all deficiency as well as counteract any destructive chemical reactions with the sulphites of the intestinal tract.

Locomotor Ataxia: Dr Curran Pope, in the *Alienist and Neurologist*, states concerning locomotor ataxia that the first and most important question is that of antisiphilitic treatment. He has never seen the slightest good result from mercury in large or small doses, nor from iodid of potassium in any dose, nor from a course at Hot Springs, but he has seen injury result from such treatment. The only demand that exists for the use of vigorous and antisiphilitic treatment, in his opinion, is the presence of true syphilitic manifestations in the skin, bones or mucous membranes. The only drug that he has found useful, and that experience has taught him is good for the disease process is silver nitrate in one-sixth to one-fourth grain doses three times a day, one or two hours after meals. Strychnin which is frequently given should rarely be administered, and then in minute doses, as it is apt to produce nervous erythrim and increase the pains. In the crises, morphin is the best remedy and the only one that will immediately check them, but it must be used with caution.

Cholelithiasis: Dr R. A. Bate in the *Medical News* for November 15 states concerning the medical treatment of cholelithiasis that for the control of the pain the speediest relief with the least undesired after-effect is obtained by the hypodermic use of heroin hydrochlorid in combination with atropin. Heroin is more analgesic and less constipating than morphin. Lecithin is perhaps the most active solvent of cholesterin known. The action of the various oils is dependent upon the lecithin they contain and olive oil at present affords the chief source for its administration. The succinate of the peroxid of iron hydrated contains a large proportion of nascent oxygen, so that it is useful both as prophylactic and an assistant in expelling calculi. Pichi dissolves the mucus and products of inflammation that bind together the cholesterin and calcareous matter. He states that in these cases the salicylates, dioscorea and olive oil have served him best.

Saline Infusion: Dr James Tyson, in the *Journal of the American Medical Association* for November 15, states that in the advanced stage of pneumonia, when there is engorgement of the right heart, hypodermoclysis alone cannot be expected to be of advantage, and may be even harmful by tending to overload the right heart, and increase its embarrassment. After a blood-letting however, the absorption of the fluid infused is more rapidly carried on, the toxins are diluted and eliminated in the urine and sweat, and in favorable cases the pulse and breathing improve. Dr S. Solis-Cohen concludes that bad results in hypodermoclysis are often distinctly due to the use of a needle of too large a caliber, and the consequent too rapid injection of the solution. He prefers to use needles of moderate caliber, and injects the saline solution rather slowly, using from four to six or eight ounces in 20 to 30 minutes subcutaneously, repeating several times a day, if necessary.

Footbaths: Dr C. J. Whitby, in the *Journal of Physical Therapeutics*, states that footbaths are of course one of the minor procedures of hydrotheraphy, but they are one of the most serviceable of all. For insomnia, chillblains, for commencing coryza, for headache, as a preparation for a tonic half-bath or trunk-bath, as a sedative in the febrile diseases of children, or in the treatment of any condition associated with cerebral hyperemia, or an imperfect circulation, hot footbaths should be in daily requisition. For passive edema of the ankles, alternate footbaths (hot three minutes, cold one-half minute thrice repeated) followed by massage of the feet and ankles, will generally prove effectual. Cold footbaths, paddling in cold water and in the sea or mining water are strongly to be recommended for children and for adults of weak circulation, for those who have a tendency to catarrhal affections of the nose and throat and for children with weak ankles, due care being taken to avoid excess.

The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and
THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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EDITORIAL

The Hypothesis of a Fish Diet in the Dissemination of Leprosy

Following the discovery of the *bacillus leprae* by Hansen in 1874, much time and thought has been devoted to the problem of the transmission of the disease from individual to individual, a question which is still far from being determined. That this bacillus may run through a stage of spore-formation, a condition which we are at present unable to detect, and live in this way indefinitely outside the human body, in soil, water or food, must, in the absence of proof to the contrary, be admitted as within the range of possibilities.

The absence of any primary lesion upon the surface of the body indicating the point of entrance of the virus into the system, makes the problem of its propagation still more difficult and, not unnaturally, lends weight to the hypothesis of food transmission and of the entrance of the virus in the spore-state in this way into the body as a possible means of the extension of the disease.

Jonathan Hutchinson has long been known as an ardent exponent of the causal relationship between fish-eating and

leprosy, and it is extremely interesting to note the large array of plausible facts in the distribution of leprosy throughout the world which lend weight to this theory.

In reference to the distribution of leprosy in its relation to fish eating, Hutchinson calls attention, in a paper on "Leprosy in India" in the *Polyclinic* for January, 1903, to the fact that the disease occurs in almost all parts of the world without regard to race or climate, and that we are necessarily forced to believe that the inculpatory article of food, if its distribution be due to any food, must be everywhere the same, in Norway as well as in India.

This writer then proceeds to show that of all articles of food which have come under observation none but fish will bear the most cursory examination; and as further evidence of this point notes the fact that the widely scattered countries in which leprosy is still prevalent are localities where fish, either fresh or in the cured state, is very largely consumed. Thus we find leprosy today in Norway and Iceland, on the Continent of Europe in Spain and Portugal, at various places in the Mediterranean, on the shores of the Black Sea and the Baltic; while if we glance at any good map we are at once impressed that the regional prevalence of leprosy is chiefly on the seacoast, and that it is practically unknown inland except where dried or cured fish is an article of diet. As against the oft-quoted assertion that leprosy prevails where fish as an article of food is not used in any form, this writer cites numerous instances showing the inaccuracy of many, at least, of these statements. Not the least instructive bit of evidence in support of the fish hypothesis is given by Hutchinson in the *Polyclinic* for December, 1902. From one Mirza Sace'd, a well-informed Persian physician who had practiced in Hamadan, we learn that there are many lepers in the district of Khansa on the River Kezelvazan, where fish is both dried and salted and kept for winter food. In Sakez, a town of 5,000 inhabitants, where the staple diet consists largely of fish, there is a leper colony said to contain 60 lepers. At Hamadan, 6,200 feet above sea level, the Mirza had seen two cases of leprosy in natives, one of whom had never left the place. These are but illustrations of many similar observations in these interesting notes.

From all the evidence obtainable Hutchinson considers that it is probably very near the truth to say that over the whole world the prevalence of leprosy is in ratio with the use of cured fish as an article of diet. In the later paper referred to above, this writer cites much additional evidence in support of this hypothesis, and we shall await with great interest the results of his investiga-

tions bearing upon these facts in India and Ceylon, to which countries he is to make an extended trip for the sole object of investigating this subject.

Though lacking in scientific proof there is much that is extremely plausible and suggestive in the ingenious arraignment of the facts in favor of this theory as set forth by this distinguished observer.

The True Status of Alcohol in Medicine

In view of the widely different opinions current as to the true action of alcohol as a therapeutic agent, the brief review of some of the most recent work upon this subject by Blackader, in the *Montreal Medical Journal* for January, 1903, is not without interest.

Insofar as it can be determined by experimental research, Cushny has shown that the physiologic action of alcohol is that of a narcotic, and not a stimulant to the nerve centers; that it is a stomachic, and that it may under certain conditions act as a food. This latter assertion is based upon the law of the conservation of energy. It has been proved by exact research that in doses not exceeding $72\frac{1}{2}$ drams less than 2% is excreted unchanged from the body of a healthy individual. It is, therefore, plain that the potential energy of the alcohol must be transformed into kinetic energy in the body, either as heat or as internal or external muscular work. That this does occur has been further proved by estimating and comparing the total energy obtained from a diet containing no alcohol with that obtained from a diet in which 500 calories are furnished by alcohol, the results obtained corresponding exactly.

The effect of alcohol upon mental processes has been shown by Kraepelin to render all purely psychic acts less accurate; and he has further shown that the only increase of power obtained is in the transformation of an idea into movement. This observer has also demonstrated the fact that the impairment of mental power following the use of alcohol lasts from 12 to 24 hours.

Quoting Sir William Broadbent on the use of alcohol in medicine, the sound rule is laid down that all stimulants—the word being used in its common interpretation—should be withheld until it is absolutely clear that they are necessary.

As to the employment of alcohol as a beverage, Blackader quotes from the editor of the *Practitioner*, the testimony of such men as Sir Samuel Wilkes, Sir H. Thompson, Professor Sims

Woodhead and Dr Edmonds, each of whom found in his individual experience that he could only accomplish the best of which he was capable by foregoing alcohol in every form. It is interesting to note in this connection that it has been shown by statistics that teetotalers have a somewhat longer expectation of life than others. The writer concludes this interesting resumé with the aphorism that "there are those who, like Cassio, have very poor and unhappy brains for drinking, or who, like Dr Johnson, can abstain but cannot be moderate."

Section of Experimental Medicine

We desire to call attention to the brief outline given on another page in this issue of the scope and methods of the Section on Experimental Medicine of the Academy of Medicine.

It is indeed a happy augury for the future of medicine in Cleveland that following so quickly upon the organization of the Academy of Medicine two independent Sections have sprung into existence, organized, and held a number of meetings which, for interest and results achieved, left little to be desired.

The field of medical research is such a vast one, with its domains ever increasing in chemical, physiologic and pathologic lines, that it is only by means of an active Section of this sort that the busy physician can get the results of the work in to him untrodden fields, assimilated and digested in such a way as to be practically available. It is our hope to publish regularly, insofar as is possible, brief abstracts of the papers presented at the meetings of this Section.

Criminal Malpractice

It is gratifying to be able to record the fact that the decision of the Supreme Court of the State, in the matter of the revokal of licenses for the practice of medicine, has in a recent judgment upheld the stand taken by the State Board of Medical Registration and Examination.

In this connection it is pertinent to raise the question as to what should constitute the Board's limitation of action in its power to revoke a license to practice medicine; and further, whether or not a criminal offense against the State laws should not be a bar to the practice of medicine at any future time, even after full expiation of sentence.

In the instance alluded to above, happily, the stand taken by the Board has been legally sustained, but it is safe to assume that

this might not always be the case, desirable and natural as it seems. It is our judgment that the power of the State Board should be so augmented as to make its decision in a matter of this sort, if not legal, at least of such value that its recommendation to the court will carry far greater weight than is at present the case.

As to the second point it certainly is a tragic miscarriage of justice when it becomes possible for an individual, guilty of the greatest offense against the canons of medicine, to serve a sentence, be it short or long, and then to be allowed to return to the practice of his nefarious trade unchallenged. Surely if it is possible to prevent this in any given case it should be possible also in every instance, and the mere fact that an individual has been found guilty should be an effectual bar against the practice of medicine in any State.

Drug Substitution

It has occasionally been our unpleasant duty to call attention to the wholesale substitution of one drug for another, either in the so-called original package or as, unfortunately, is often the case in the compounding of prescriptions by careful (?) pharmacists.

In the light of certain recent investigations by Commissioner Lederle, of the New York Health Department in Manhattan and Brooklyn, the warnings which have appeared in our own columns, as well as those sent out the country over, not only do not appear exaggerated, but must be interpreted as very mild protests against a most deplorable state of affairs. One drug alone suffices as an illustration of what has been done in this direction to deceive the prescriber and beguile the victim; and if it is possible of one drug it is plainly possible of any and all, though perhaps less profitably so.

Commissioner Lederle instituted a wholesale examination of the stuff sold as phenacetin in the drug stores both of Manhattan and Brooklyn. Of 373 samples purchased in the open market but 58 were found to be pure phenacetin, the remaining 315 being adulterated, the most common adulterant used being acetanilid.

The price of phenacetin as quoted in the list of one of our prominent drug houses is \$1 per ounce, while acetanilid sells at 2½ cents per ounce. If then, we substitute acetanilid for phenacetin, a most natural procedure on the part of the chemist because of its cheapness and allied therapeutic effect, though as we know a much more uncertain and toxic drug than that for which it is substituted,

it is easy to see the profits on such a basis accumulate with startling rapidity. But what of the prescriber and of the purchaser under these conditions? Have they no means of protection, no chance of redress in the face of such deception? Apparently not, until such time as our respective City Health Departments follow the lead of New York and assume as an additional duty the examination of samples of drugs purchased in the open market, followed by a publication of the names of those houses selling adulterated medicines.

It is, of course, by no means always true, that the individual from whom the drug has been purchased is responsible for its adulteration, a fact well illustrated by the list published in the report alluded to above, which contains the names of many well-known drug and department stores; but the publication of such a list would put every dispenser of drugs on the alert, and would aid much in the solution of this problem which strikes home to every honest physician and pharmacist.

Modern Pseudo-Science

It is often said that this is an age of progress. In the face of the evidence which we quote, from the February issue of the *Journal of Osteopathy*, no one can deny this statement.

"Osteopaths are like musicians, for their business is to make harmony." * * * "There are great masters of melody trained in the schools, and there are piano players trained in no school at all; and there are osteopaths trained in the colleges of osteopathy and there are others who impose upon the public. But the untrained player cannot rise to the heights of Wagner and Chopin; nor the fakir produce an artist's results on a back." * * *

"The osteopath must know the influence of gravity of the hydrostatic pressures and the way these pressures are modified by vital changes in the heart and blood-vessels; and by respiratory movements. He must consider the capacity of the abdominal veins as modified by the stress of abdominal muscles and the tone of these same muscles as affected by the integrity of the respiratory center."

Again, "A rise of arterial blood-pressure does not, as has been supposed, produce an anemia of the brain through compression of capillaries and veins, but rather it causes an increased velocity of blood flow."

It is indeed comforting to learn that there can exist, in these strenuous days, a group of individuals whose chief object in life is to produce "harmony." As to the accuracy of the scientific truths demonstrated in the last two excerpts, we must let our readers judge for themselves.

Physiology and Hygiene in our Public Schools

Through the courtesy of the Supervisor of Hygiene, of our public schools, we have received copies of the schedule outlined for the teaching of physical education in the fifth, seventh and eighth grades, together with a copy of the letter sent out to the Principals of the different schools.

It is gratifying to note the importance accorded the vital subject of hygiene, and the stress laid upon its practical bearing in every-day life, as illustrated in these circular letters.

In view of the real danger of failure to demonstrate by actual practice the points most emphasized in our didactic teaching, it is comforting to find that the attention of the teachers generally has been especially called to the urgent necessity of a proper observation of the rules laid down for light and ventilation.

In this connection the result of the record kept for the 20 days preceding the Christmas holidays, as to the character of the weather in its effect upon the lighting of the school-buildings, is extremely interesting. By actual record it was found that on 28 of the 40 half-days it was cloudy and dark during the whole school period, as practical a demonstration of the great importance of proper lighting, especially during the winter months, as one could ask for.

In the matter of the actual teaching of physiology, the subject is so divided and arranged that our school children, particularly those who complete the full course, should be well-grounded in the fundamental principles of this most important subject.

Especially to be commended is the instruction upon first-aid which covers very thoroughly the necessary methods of procedure, including the reasons therefore, which should be employed in all accidents and emergencies until skilled attendance can be obtained.

Book Reviews

A Manual of Dissection and Practical Anatomy founded on Gray and Gerrish. By William T. Eckley, M. D., Professor of Anatomy, and Corinne B. Eckley, Demonstrator of Anatomy in the Medical and Dental Departments of the University of Illinois. In one octavo volume of 400 pages, illustrated with 220 engravings, 116 of which are colored. Cloth, \$3.50, net. Lea Brothers & Co., Publishers. Philadelphia and New York

This work which is intended to serve as a guide to dissection and as a practical anatomy for the busy physician, should fill a useful place among similar text-books. It has been prepared after the systematic works of Gray and Gerrish, eliminating the un-

necessary detail and giving in convenient tabulated form the essential points. It is fully illustrated, many of the plates having been taken from the better-known text-books after which this is modeled. The typography and press-work are excellent, and we are confident that it will fill a valuable place as a reference work on anatomy.

Text-Book of Physical Diagnosis. By E. LeFevre, M. D. 12mo, 440 pages, with 74 engravings and 12 plates. Cloth, \$2.25, net. Lea Brothers & Co., Philadelphia.

It is often difficult to appreciate fully the *raison d'etre* of many of the books which are published in these days upon a host of subjects included under the division of medicine.

The subject of physical diagnosis has had its well-merited share of attention in volumes large and in volumes small, a fact of which the author of this work is keenly alive, as emphasized in his preface; but as there is always the opportunity for individuality in methods of teaching and ways of going at a subject, the same may be said to be true of its presentation in writing, and it must be admitted that Dr LeFevre has succeeded in emphasizing certain important and fundamental points in a way not often accomplished in similar text books.

The chapters devoted to percussion and auscultation are sound and clear, the photographs and accompanying diagrams adding much to the exposition of the text. There is an interesting and instructive chapter, with many full-page radiographs, devoted to the subject of examinations with the Roentgen ray. As a practical and thorough manual upon the subject this book can be heartily recommended.

The American Text-Book of Obstetrics. In two volumes. Edited by Richard C. Norris, M. D.; Art Editor, Robert L. Dickinson, M. D. Second Edition, Thoroughly Revised and Enlarged. Two handsome imperial octavo volumes of about 600 pages each; nearly 600 text-illustrations, and 49 colored and half-tone plates. Cloth, per vol., \$3.50 net; Sheep or Half Morocco, \$4.00 net.

Since the appearance of the first edition of this work, which was published as a single volume in 1895, many important advances have been made in the science of obstetrics which it is the endeavor of the present work to record in their true value, an endeavor which in our judgment has been most successfully accomplished.

The list of contributors represents the best obstetric teaching of today, and the disposition of the subjects has been made by the editor in a way that insures the very best from each in his chosen field. The arrangement and classification of the work is excellent and its publication in two volumes enhances immensely its availability as a reference work. The text is everywhere, insofar as it covers the topics treated of, a clear and lucid exposi-

tion of the subject in hand, while the large number of illustrations add tremendously to the ease of its interpretation.

In a work of such unusual excellence it is surprising to find that the all-important subject of the elimination of urea during pregnancy is not treated of exhaustively, being dismissed practically in half a page under the heading of "Uremia in Pregnancy," the word "urea" not even appearing as such in the index. It is always discouraging to find the point one is most keen to gain enlightenment upon wholly omitted from a work of this sort. Otherwise these two volumes are unusually thorough; the obstetric emergencies, the mechanics of normal and abnormal labor and the various manipulation of obstetric surgery being described in great detail. The result of all the recent work in bacteriology and pathology as bearing upon this subject is incorporated in the text, and the full bibliography given throughout the work is a most valuable addition.

From the purely mechanical standpoint we know of no more attractive work on midwifery. The paper, press work and the wealth of illustrations, many of them of unusual merit, all go to make a book to which it is a pleasure to be able to refer, and we can heartily recommend it as a valuable addition to the library of every physician and student.

Atlas and Epitome of Abdominal Hernias. By Privatdocent Dr. Georg Sultan, of Gottingen. Edited, with additions, by William B. Coley, M. D., Clinical Lecturer on Surgery, Columbia University (College of Physicians and Surgeons). With 119 illustrations, 36 of them in colors, and 277 pages of text. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, \$3.00 net.

In this work will be found a good succinct and practical account of the subject of hernia, not overburdened with detail. The anatomy of the various forms is considered, the text being supplemented by numerous illustrations. The "accidents of hernia," such as fecal stasis, inflammation, strangulation, etc., are fully described. There is a brief though valuable chapter on expert opinions in reference to abdominal hernias. In conformity with modern ideas, the author lays stress on the operative treatment of hernia, and in this respect the book supplements some of the older treatises on the subject. The various obsolete methods are not described; only those of Kocher, Bassini and Macewen receive attention.

Dudley's Gynecology. A Treatise on the Principles and Practice of Gynecology. By E. C. Dudley, A. M., M. D., Professor of Gynecology in the Northwestern University Medical School, Chicago. New (3d) edition. Enlarged and thoroughly revised. In one very handsome octavo volume of 756 pages, with 474 engravings, of which 60 are in colors and 22 colored plates. Cloth, \$5.00 net. Leather, \$6.00 net. Half morocco, \$6.50 net. Lea Brothers & Co., Philadelphia and New York.

The fact that this work has already reached a third edition within a short time is a good indication of its popularity. It is intended especially for the general physician and student of medi-

cine and is a comprehensive and practical treatise on the subject. The book is not merely an operative guide but gives due consideration to the nonsurgical treatment of gynecologic diseases. Its usefulness to the profession as a whole is therefore apparent. The present edition has been completely rewritten in some parts and in others has been enlarged and brought up to date. It contains a number of new and graphic illustrations which are especially valuable in explaining the steps of certain operations. The tabulated forms employed for differential diagnoses effect a considerable economy of space and will appeal to many readers. Due credit has been given other authors for work done and illustrations reproduced.

International Medical Congress

We desire to call attention to the following official notice of the fourteenth International Medical Congress to be held in Madrid on April 23-30. As all those who wish to attend the Congress have a common objective point, it is thought that they can be associated to advantage in one or more excursion parties. By such association better accommodations can be secured and at a considerable reduction in price. Additional security will also be attained, as parts of the trip, which include comparatively unfrequented routes of travel, will be under the charge of a traveling conductor who is thoroughly conversant with the language and customs of the countries visited. As there will doubtless be some divergence as to choice of routes, depending on individual inclination and previous opportunities of foreign travel, several returning routes have been selected, the itineraries of which, although separate from a portion of the journey, have been arranged that the principal points are visited together. The party will sail from New York City, on April 11, on the twin-ocean steamer, "Princess Irene," North German Lloyd, direct to Gibraltar. Tickets for the round trip, including hotel and sight-seeing, \$265, \$375 and \$550, according to the tour selected. It is important that all who contemplate taking this trip should register at once, so that reservations for hotel in Madrid may be satisfactorily arranged. Final arrangements will be in the hands of the well-known conductors, Thos. Cook & Sons, which insures perfect and complete service in all details. Full information and copies of itinerary may be obtained by addressing either of the last named undersigned. W. W. Keen, Walter Wyman, Nicholas Senn, C. A. L. Reed, Howard A. Kelly, A. Vanderveer, John B. Murphy, Joseph Mathews, Robt. T. Morris, Lucien Howe, Chas. H. Hughes, W. F. Southard, Ramon Guiteras, 75 W. 55th St., New York City. Chas. Wood Fassett, Krug Park Place, St. Joseph, Mo.

Medical News

The death-rate of Toledo for 1902 was 11.57%.

F. W. Linn has opened an office at 1111 Lorain street.

Dr Tuller, of Bowling Green, has retired from practice.

Galion is likely to have a new hospital in the near future.

W. H. Crane has been appointed city chemist of Cincinnati.

Herman Weinberger, of Philadelphia, will locate in Youngstown.

C. W. Lane has opened an office at 474 Detroit street, this city.

Hereafter all mail matter to and from Toledo will be fumigated.

T. J. Savage, of Bowersville, will change his location to Xenia.

James S. Cannon, of New Martinsburg, will locate in Mt. Sterling.

Dr Cameron has succeeded Dr Haines as deputy Coroner of Cincinnati.

C. R. Justice, of Poland, fell and dislocated his elbow on January 20.

B. K. Ormond, of Toledo, met with a painful accident on January 16.

A case of measles was reported from the barracks at Columbus, January 11.

H. C. Crumrine has located at the corner of Lexington and Dunham avenues.

The antivaccination fight at Columbus will be made an issue at the next election.

Dr Goode, of Ashtabula, has bought out the practice of J. H. Quayle, of Madison.

Dr. Whitmer, after a short sojourn in Bradner, has again located in Columbus.

J. H. Quayle, of Madison, has gone to New York to take a post-graduate course.

C. S. Muscroft, of Cincinnati, sustained a painful injury to his arm December 29.

Animal tuberculosis prevails in the State at the present time to an alarming extent.

Jonathan I. Cilly, of Cincinnati, was reported to be dying in New York January 29.

The Deaconess' Hospital at Dayton is reported to be in good financial circumstances.

W. C. Park, of Grafton, and Miss Grace A. Bruce, of Elyria, were married January 14.

G. A. Ehret and R. E. Ruedy have opened offices at 821 the Scofield Building, this city.

Work of vaccinating the prisoners at the Ohio Penitentiary was begun early in January.

F. L. Gibbs, the Coroner elect of Chillicothe, entered upon his new duties on January 9.

The addition to the St. Elizabeth Hospital at Dayton will be ready for occupancy in March.

Measles, whooping cough and chickenpox were reported very prevalent in Shelby January 17.

H. R. McClellan, of Xenia, sustained a fracture of some of the bones of his foot on December 25.

Frederick C. Taylor, of this city, is expected home from his trip abroad about the middle of April.

Richard T. Henderson and Miss Phoebe Hinchman, of Urbana, were married early in January.

The colored people of Cincinnati will start a hospital on West Sixth street for the people of their race.

William Judkins, of Cincinnati, is a victim of weakened mentality, and will seek relief in a sanatorium.

The thirteenth annual meeting of the State Board of Health took place on January 29 and 30 at Columbus.

The physicians of Urbana drew up resolutions December 8 upon the occasion of the death of H. C. Pearce.

Benjamin F. Lippert, of Columbus, was arrested for not reporting an alleged case of smallpox, January 5.

M. D. Mann, of Buffalo, operated before a large body of physicians at the Cincinnati Hospital on January 9.

J. H. Davis, of Washington C. H., has discontinued the practice of medicine and has gone into the oil business.

On January 22 the Board of Health of Madisonville ordered all school children not vaccinated to be so in 10 days.

Cleveland physicians will ask the next legislature to pass laws protecting the public from the ravages of tuberculosis.

M. M. Jacobs, of Hamilton, who had been suffering from septicemia, was pronounced out of danger on December 9.

Members of the Cleveland Humane Society are stirred up over the fact that vivisection is being practiced in this city.

R. Harvey Reed, of Rock Springs, Wyoming, formerly of Mansfield, is reported in a critical condition from septicemia.

The Greene County Medical Society met January 13 at Xenia. The topic of discussion was "The X-ray, Its Use and Misuse."

Fremont D. Davis, of Minerva, was awarded \$3,465 damages against the Lake Erie, Alliance and Wheeling R. R. Company.

W. M. Tuller, of Bowling Green, after being actively engaged in the practice of medicine for 27 years, has permanently retired.

Kenyon Military Academy was placed under strict quarantine January 15 on account of several cases of scarlatina within the institution.

All school children of Columbus not showing a certificate of successful vaccination within the last five years will be excluded from school.

T. V. Dupuy, of Ironton, has received his commission from Governor Nash to be surgeon, medical department, O. N. G., with rank of major.

Charles B. Adams, of Vanceburg, was operated upon at Portsmouth for cerebral hemorrhage. His condition on January 15 was extremely critical.

Dr Probst addressed a letter to the Postmaster General suggesting as a precautionary measure that the vaccination of all railway mail clerks be required.

The Columbus Academy of Medicine met January 9. Papers were read by J. E. Brown and Charles Shepard. The application of C. A. Howell was voted upon and accepted.

In a suit for malpractice against Dr Baldwin, of Columbus, the case was taken from the jury, Judge Williams dismissing the defendant. A motion was made for a new trial.

The Dayton Physicians' Club met January 22 and listened to a paper read by W. J. Conklin on "Passing of the Old-time Doctor of Medicine of Yesterday, Today and Tomorrow."

President J. H. Outhwaite of the State Tuberculosis Commission called a meeting at Columbus January 29 and recommended the establishment of a State hospital for consumptives.

All of Health Officer Davis' orders relative to vaccination of school children have been declared illegal by the Corporation Counsel because they were issued under an obsolete ordinance.

The Belmont County Medical Society met at Bellaire on January 6. The following program was carried out: "Reorganization," J. C. M. Floyd, Steubenville; "Tuberculosis," S. G. Wilson, of Colerain.

Willis R. Thomas, of this city, who has been serving a seven-year sentence at the Ohio Penitentiary for criminal abortion, has been liberated. He says that he intends returning to Cleveland to practice medicine.

The Cleveland Antivaccination Society met January 20 and appointed a committee to draw up resolutions expressing the sentiment of the organization as opposed to compulsory vaccination. May Providence absolve us from this army of "unsalvation."

The State Board of Medical Registration and Examination announced, on January 5, the result of the recent examination of candidates for the degree of M. D. Of the 32 applicants 28 passed, those failing being but 1.3 percent of the total number.

M. D. Mann, of Buffalo, was the guest of the Cincinnati Obstetrical Society on January 8. He read a paper on "The Surgical Treatment of Puerperal Sepsis." The essay was freely discussed and the evening closed with a smoker and refreshments.

B. Becker, of Toledo, will sail for Europe in March as a delegate of the American Medical Association to the International Medical Congress at Madrid. He will also be a delegate of the Academy of Toledo and Lucas County, and a representative of the Toledo Medical College.

A Portsmouth physician reports a singular case of involuntary vaccination. A nursing infant was vaccinated while the mother refused to submit to the operation. The vaccination of the child proved successful and was followed by a typical sore on the breast of the mother. How the virus was transmitted is not stated.

The eighth quarterly session of the Central Tri-State Medical Society was held at Ironton, January 21. The program consisted of interesting papers by C. W. McCoy, of Sheridan, Dr. Bartram, of Ashland, and C. G. Gary, of Ironton. The meeting was well attended and was followed afterward by a sumptuous banquet at the Palace Hotel.

Antivaccination feeling is on the rise in Columbus. In this instance the cranks will not have far to go to make their complaints to the State Board of officers, and the position of Dr Probst is not an envious one. It is reported that those parents who do not believe in the efficacy of vaccination will make a fight to test the validity of the law.

A. E. Hoskinson and C. F. Cookes made an appeal for a rehearing. The application was unanimously rejected. This closes the incident and denies the two doctors the right, henceforth, to practice medicine in this State. Their certificates were revoked in the first place on account of a death connected with a criminal abortion in Columbus.

C. S. Carr, of Columbus, who stands at the head of the anti-vaccination contingent of the latter city and who loudly proclaimed that there was no smallpox epidemic, received an invitation from Health Officer Smith to accompany him on his visits to the smallpox cases of the city. Dr Carr accepted the invitation and worked his bluff up to the last moment and then refused to go, business being the reason for his not going.

Some of the homeopathic physicians of the State are administering a drug which they claim is equivalent and even more efficient than vaccination. Persistence in this practice will surely bring about a clash with the State Board of Health, as it has been claimed that this is within the limits of the law in its understanding of vaccination. The law will not recognize this as vaccination, and no school certificate will be accepted which has been issued through such a course of absurd reasoning.

Smallpox in the State

The village of Lykens is having a scourge of smallpox.

A case of smallpox was reported from Gordon January 8.

A case of smallpox was reported at Barberton January 27.

A case of smallpox was reported from Curtis on January 8.

Frankfort claimed exemption from smallpox until January 10.

A death from smallpox was reported from Akron January 19.

A second case of smallpox developed at Barberton January 15.

On January 19 six new cases of smallpox were reported at Toledo.

On January 9 the smallpox epidemic in Toledo was reported alarming.

Okeana and vicinity was in the throes of a smallpox scare January 10.

Three more cases of smallpox were reported from Castalia December 5.

Up to December 10 four persons had succumbed to smallpox at Delaware.

On January 21 there were only three cases of smallpox in Clay township.

M. J. Beard, of Lucasville, was reported suffering from smallpox on January 21.

The Columbus Workhouse was quarantined January 15, on account of smallpox.

Reports came from St. Paris that several cases of smallpox have developed there.

After being free from smallpox for quite a while, Sandusky reported a case January 18.

After only partially recovering from typhoid J. E. Schooley, of Guilford, contracted smallpox.

Health Officer Smith of Columbus admits that the smallpox epidemic is assuming alarming proportions.

From January 15 all visitors will be barred from the Ohio Penitentiary as a precautionary measure against smallpox.

Up to January 21 Gallipolis has had no cases of smallpox, and on that date Portsmouth and Iron-ton were reported free from it.

On January 10 no new cases of smallpox had been reported from Delaware for a week, and the general situation was reported very favorable.

Eleven cases of smallpox in one family, besides a number of other cases about the town, furnished plenty of material for worry to the Springfield health authorities during the first half of December.

The Board of Police Commissioners at Toledo severely criticizes the manner in which the health authorities are hunting down smallpox cases. The Health Department is a little too persistent in its efforts in trying to stamp out the disease to suit the Police Department. What next?

Deaths

I. K. Scott, of LaRue, aged 56 years, died January 11.

O. W. Weeks, of Marion, aged 62 years, died January 11.

I. K. Scott, of Richwood, aged 59 years, died January 21.

W. C. Cole, of Van Wert, aged 87 years, died January 21.

F. B. Dunnigan, of Toledo, aged 37 years, died January 16.

John E. Wood, of Marysville, aged 30 years, died January 25.

P. Root Everett, in practice in Cleveland for 50 years, died January 13.

A. Dove, of Brookville, aged 74 years, died January 19. He served two years as a surgeon in the Russian army.

John D. Jones, of Cincinnati, died early in January at Augusta, Fla. He was formerly a practicing physician of Cincinnati, but for the past five years has held the position of lecturer on forestry in the Imperial College at Tokyo, Japan..

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The Occurrence of Cheyne-Stokes' Breathing in Acute Disease, with Report of a Case

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The type of breathing commonly designated by the name "Cheyne-Stokes" was first adequately described by Dr William Stokes, of Dublin, in his work on Diseases of the Heart and Aorta, published in 1854.

He speaks of the symptom as follows: "It consists of a period of apparently perfect apnea, succeeded by feeble and short respirations, which gradually increase in strength and depth until the respiratory act is carried to the highest pitch of which it seems capable, when the respirations, pursuing a descending scale, regularly diminish until the commencement of another apneal period. In this condition, the patient may remain for such a length of time as to make his attendants believe that he is dead, when a low respiration, followed by one more decided, marks the commencement of a new ascending and then descending series of respirations. This symptom, as occurring in its highest degree, I have only seen during a few weeks previous to the death of the patient. I do not know any more remarkable or characteristic phenomena than those presented in this condition, whether we view the long-continued cessation of breathing, yet without any suffering on the part of the patient, or the maximum point of the series of respiration, when the head is thrown back, the shoulders raised, and every muscle of respiration thrown into the most violent action."

The symptoms so eloquently described in these words had been observed by Dr John Cheyne in 1818. The history of the case was printed in the Dublin Hospital Reports, and quoted by Stokes in his work. The patient was a man of 60, who had been subject to gout. He had suffered from edema of the ankles and occasional palpitation of the heart. After an over-exertion he fell insensible, and his pulse was very weak and irregular. After partial recovery from this attack hemiplegia supervened, and the patient soon succumbed. It was during the final days of his illness that the peculiar form of respiration occurred which is mentioned by Dr Cheyne. It was described by him as follows: "The breathing was irregular; it would entirely cease for a quarter of a minute, then it would become perceptible, though very low; then by degrees it became heaving and quick, and then it would gradually cease again. This revolution in the state of his breathing occupied about a minute, during which time there were about thirty acts of respiration."

Regarding the relation of this symptom to the various diseases, acute and chronic, little was of course known at that time. Stokes stated that he had never observed it except in cases of fatty degeneration of the heart, although he did not believe that Cheyne connected it especially with that condition.

Since the time of Cheyne and Stokes, various observers have noted many interesting phenomena which occur in other organs in connection with this peculiar respiratory irregularity. These conditions, fully described by Gibson and by Sahli, relate especially to the eye and to the circulation. I will quote briefly the most important of the changes observed. The eyes may be opened during the period of breathing and closed during the period of cessation. During breathing the pupil is usually dilated, and during the pause it is contracted. As Leube pointed out, dilation may begin with the early superficial respirations, or may precede them. Finlayson observed that the pupil often dilated slightly with each respiration and contracted with each expiration until the height of the respiratory phase was reached, when the pupil was widely dilated, after which the contraction with each expiration somewhat exceeded the dilatation accompanying each inspiration, until the pupil became fixed in a contracted condition. Merkel and others have observed that the pupillary reflex is generally absolutely abolished during the cessation of respiration, and that no reaction to light can be obtained. Schepelern and Ewald have not been able to make out any changes in the vessels of the retina during

the cycle of respiration. Nystagmus and conjugate deviation of the eyes have been observed in some cases.

Circulatory changes in Cheyne-Stokes' breathing are quite variable. The rate of the pulse may be increased, or diminished during either period. The volume and pressure also vary considerably in different cases. It has been especially noticed that during apnea the volume is often larger and the pressure lower than in dyspnea. Many cases show no periodic change in the circulation. This was true in my own case, which is reported below.

During apnea, the patient is generally quite unconscious, while during the period of dyspnea a certain amount of consciousness usually returns. Sahli states that he has seen cases in which the patient complained of distress in "getting breath" during the period of dyspnea. He mentions also the cyanosis which is present at the beginning of the breathing phase, and which, strangely enough, increases with the ascending respirations. This symptom also was very clearly shown in my own case.

The theories which have been advanced as to the cause of the Cheyne-Stokes' phenomena may be divided, according to Gibson, into two classes: first, those which seek to explain the periodicity of the breathing by varying conditions of the stimuli acting upon the nervous mechanism of respiration; and second, those which attempt to account for the phenomena by variations in the condition of the intrinsic respiratory center. To the first group belong the theories of Traube, and Filehne; to the second, belong those of Luciani and Rosenbach. I will briefly state the main points of these without going deeply into the arguments *pro* and *con*, which are dealt with more exhaustively in Gibson's valuable work "Diseases of the Heart and Aorta." The following resumé is drawn largely from his book.

Traube held that, through the lessened amount of oxygen supplied in certain conditions to the respiratory centers in the medulla, the irritability of these centers was diminished to the extent that respiration ceased; and it was not until the occurrence of increased irritation, produced by an excessive amount of carbonic acid in the blood, that the center was again stimulated to action and respiration commenced.

This theory, plausible as it may seem at first, has not met with general acceptance. Sahli states the two chief objections: with the first respiration there would, presumably, be a diminution in the amount of carbon dioxid in the blood, the stimulation of the respiratory center would grow less, and the respirations, instead of ascending to a climax, would at once cease. It has been

contended, however, that the first shallow respirations are insufficient to reduce the quantity of the carbon dioxide in the blood, which even increases in spite of them. Sahli, while he does not accept this theory, thinks that the latter point best explains the fact specially noted by him, namely, the increase of cyanosis after breathing has commenced.

His second objection to Traube's theory is that the respiratory center, having once regained its normal irritability through the oxygen supplied by the group of respirations, it is difficult to see why this center should again become inactive, unless some other factor is brought in to explain it. Traube finally recognized the difficulties in maintaining his position, and modified his views considerably in favor of the theory, given below, of a rhythmic periodicity in the respiratory center.

Filehne, in his theory, admits the lowering of the irritability of the respiratory center, but considers the stimulation of the vasomotor center, through the increased amount of carbonic acid in the blood, as the first step in the production of the respiratory phase. This creates an anemia in the respiratory centers, and respiratory movements ensue. This theory is criticized by Gibson and others as fanciful and not founded upon fact in regard to the excitability of the centers in the medulla.

Luciani, observing that under certain conditions the contractions of the heart of the frog occurred in groups, concluded that the periodic grouping of respirations characteristic of the Cheyne-Stokes' breathing might occur under somewhat analogous circumstances. Searching for a common explanation of these phenomena, he conceived of an automatism of the nervous centers, depending upon intrinsic causes as distinguished from extrinsic causes, which may give rise to strictly reflex movements. The intrinsic causes, he believed, consisted of "oscillations of the internal nutritive movements, to which correspond as many oscillations of the excitability of the organ itself."

Rosenbach's view is a modification of Luciani's. He accepts the theory of the automatic nature of the respiratory center, but sees, moreover, in the Cheyne-Stokes' phenomena a modification of the natural law of alternate activity and repose observed in ordinary respiration, in the inspiration, expiration and pause; in the circulation, in the systole, diastole, and pause of the heart; and the states of waking and sleep of the nervous system. In certain conditions the exhaustibility of the respiratory centers becomes greatly increased, and this explains the long pause of the Cheyne-Stokes' cycle. At the beginning of the respiratory phase the

irritability of the center is lowered and the breathing is shallow. With each succeeding breath the irritability is increased, and dyspnea occurs in spite of improved aeration of the blood, until the end of the ascending series is reached, when the irritability again diminishes. According to Rosenbach the variations occurring in the Cheyne-Stokes' phenomena depend upon whether the whole, or only parts, of the brain are overcome by exhaustion. When the respiratory centers alone are concerned, the circulatory and ocular symptoms are wanting.

Breathing of the Cheyne-Stokes' type has at times been observed during sleep in man and the lower animals in conditions of apparent health. It usually occurs after marked fatigue from physical exertion. Masso has found that a respiratory cycle of a similar nature is quite common among hibernating animals. The breathing of sleeping children is usually quite irregular and occasionally is found to be closely approximate to the Cheyne-Stokes variety. I have lately seen a striking instance of this kind. Other observers have reported the occurrence of Cheyne-Stokes breathing following the administration of morphin, potassium bromid and chloral.

Gibson concludes from these data that in the production of Cheyne-Stokes' breathing there is necessarily a periodic variation in the activity of the automatic respiratory center. This is due simply to the loss of the influence of the higher regulating centers, or possibly may depend, in part, upon a diminished vitality of the respiratory center itself. Cheyne-Stokes' breathing is mentioned by various writers as occurring in diseases of the brain, in brain tumors and hemorrhage. It is perhaps most frequently found in fatty degeneration of the heart, in uremia, and in meningitis. In the last named disease a type of respiration differing somewhat from the Cheyne-Stokes' has been observed; it is called the meningitic or Biot respiration. It is characterized by pauses, which occur periodically in otherwise normal breathing. The ascending and descending scales of the Cheyne-Stokes' cycle are wanting. It is of no practical importance to distinguish between the two types. Stokes believed that the form of respiration described by and called after him, occurred only in connection with fatty heart. Osler has met with it in sunstroke; it was present in a case of my own, and was followed by recovery. Sahli states that it may sometimes be observed in severe circulatory disturbances, and in conditions of profound toxemia. He mentions having seen it in acute diffuse peritonitis and other acute infections, especially typhoid. It is occasionally present in diabetes. O'Donovan

believes the symptom may often be the earliest sign of chronic Bright's disease. He cites three cases in which it was noticed during sleep, at periods of from three to seven years before the diagnosis of the disease was made.

This symptom is generally considered to be of bad prognostic significance, though Osler has seen recovery follow after persistence of the phenomena for several weeks. Sahli thinks that such instances probably occur only in connection with chronic heart and kidney disease.

Considering the probable conditions under which the Cheyne-Stokes' phenomenon appears, namely, the loss of the influence of the higher regulating centers over the respiratory center, combined possibly with a diminished vitality of this latter center, it hardly seems likely that the symptom is very closely confined to the chronic diseases. Yet, in looking through the literature, one finds very scant mention of the phenomenon as occurring in specific instances of acute diseases, though nearly all writers state in a general way that this breathing is found in such affections. I have been able to collect but very few cases where the phenomenon has been especially noted and the history published. It is not unlikely that the symptom, if it has not escaped observation, may have been described simply as dyspnea. I will cite briefly the cases I have collected, and then give in greater detail my own case which may prove of interest.

Case 1: *Cheyne-Stokes' Breathing in the course of Typhoid Fever*—reported by Andrew. The patient, a male, aged 23, had a temperature of 101.8° on entrance to the hospital; his pulse was 96, soft and dicrotic. Seven days after admission there was a troublesome cough, and marked dulness was found in the right lateral region with bronchial breathing. At this time it was observed that "the breathing was not regular, being sometimes checked." The temperature was 101.4°; the pulse 116, and very feeble; respirations were 40; the tongue was brown and dry; the mental condition was dull and heavy. Four days later the conditions were as follows: there was dorsal decubitus, face was dusky, the patient comatose, and there was Cheyne-Stokes' breathing. Twenty-five seconds are occupied from the beginning of the ascending to the end of the descending scale of breathing; then follows an interval of 10 seconds, during which time no inspiration is made. The breathing begins with a very shallow respiration, gradually becoming deeper until it is quite labored; then it gradually subsides again. During the dyspnea the patient is restless, moving his head. Signs of consolidation in the right lung are well marked. From this point the patient began to rally, and the irregularity of respiration soon disappeared as recovery advanced.

Case 2: *Cheyne-Stokes' Respiration in the course of Scarlet Fever*—reported by Lutz. L—, the patient, a male, was five years of age. His elder sister had died a day before he became ill, of meningitis following scarlatina. He suffered early in the disease from severe delirium, and unconsciousness. The throat was covered with exudation. On the seventh day there was a purulent discharge from one ear. The patient was very restless, and often roused from a condition of stupor with a piercing cry. Pauses in the respiration were now noticed. The physician observed three or four superficial respirations, then two or three with longer pauses, but dyspneic; then the lighter respirations again, and a pause of one-fourth to one-third of a minute. The pulse was regular, 76 to 78; the temperature was 100°. The following day there was marked photophobia, and discharge from the other ear, with increase of the temperature to 102.5°. Deafness at this time appeared almost absolute. Recovery followed though the Cheyne-Stokes' respiration lasted five days. There was no albumin in the urine during the course of the disease. The author concludes that the respiratory phenomena are best explained by the existence of a meningitis.

Case 3: *Cheyne-Stokes' Respiration as a complication of Typhoid Fever*—reported by Hesky. This report has not been accessible to me, and I regret I cannot give it in detail. The same is true of the following case, reported by Von Hüttenbrenner, of Cheyne-Stokes' breathing in the course of diphtheria in a child two years and six months old.

My own case is as follows: The patient was a male, aged 68 years. One brother died of diabetes at the age of 63; his family history in other respects was negative. The patient served in the Civil War, and since that time has never enjoyed very good health. For some years he has suffered from enlargement of the prostate, associated with cystitis. Ten years ago he was critically ill with what he believes was kidney disease. At that time he had an attack of facial erysipelas of a severe type, and was not expected to recover. He has been under my observation for three years, during which period he has suffered twice from attacks of diarrhea attended by marked exhaustion, with a rapid, soft and irregular pulse. He is a man of large frame, slightly emaciated, and of eccentric character. He appears singularly insensitive to pain, having been known by his family to disregard certain injuries about his body which would have caused the ordinary individual acute suffering. He has the reputation of having been a hard drinker when a young man; his present habits in this regard are somewhat uncertain, though he probably indulges to a moderate extent in alcohol. Having had occasion to examine his urine two years ago, I found the specific gravity 1.018, the quantity about

normal. There was a trace of sugar, and also of albumin, which latter could plausibly be accounted for by the large number of pus corpuscles present. There were no tube-casts found. The heart appeared slightly hypertrophied, though no marked arteriosclerosis was observed.

The illness of which I wish particularly to speak was an attack of facial erysipelas which began March 9 of the present year. The region of the left eye was first affected, and from there the disease spread rapidly over the side of the face to the ear. A little later the inflammation crossed the bridge of the nose and invaded the right side. On the left shoulder and arm several circumscribed red patches appeared which showed very slight swelling, and gave no pain. These were very transitory, fading out after a day or two. The pharynx was reddened and swollen, and the patient complained a great deal of soreness in the throat. The temperature was 100.5° , the pulse 108, full, soft and very irregular. At the end of 36 hours there was a degree of toxemia present which seemed out of proportion to the external appearances of the disease. The patient sank into a comatose condition, the tongue became very brown and dry; and the pulse was 140, weak, and exceedingly irregular. On auscultation the heart showed the gallop-rhythm in a marked degree. The urine was scanty, and heavily loaded with urates and pus. Slight albuminuria was present, but there were no casts.

It was at the end of the second day that the peculiarity about the breathing was noticed. It first showed itself as a slight intermission occurring at somewhat regular intervals. After a few hours the pauses became longer and the respirations of a group, instead of being of equal depth, took on the characteristics of the Cheyne-Stokes' type, beginning faintly and growing successively in depth until the climax was reached, when they began to diminish in force, and finally died away. The respirations, after the first two or three, which were very faint, became stertorous; and as the climax was approached the expiration was accompanied by a loud groan. Toward the end of the period of apnea the patient would grow cyanotic, and this cyanosis would increase perceptibly after respiration had recommenced until nearly the height of the respiratory phase had been attained, when it slowly disappeared. Sahli makes especial mention of this interesting symptom. In my patient the pupils were moderately contracted, and quite insensitive to light during apnea, and widened during the dyspnea. Consciousness was entirely lost during the pause, and regained to a limited extent during the period of breathing.

The patient could be aroused to take medicine and nourishment, and for a brief time the rhythmic character of the respiration would be lost, but promptly returned, and continued in this manner during six days. The duration of the period of apnea varied from 25 to 45 seconds; that of the active part of the cycle varied from 25 to 35 seconds. The number of respirations in a group ranged from 8 to 15. These variations were for the most part quite gradual; for hours at a time the rate and rhythm of the breathing would remain practically unchanged.

Dr Lowman saw the case with me on March 11, and expressed much interest in the phenomena present. On March 14, the patient failed rapidly and death seemed imminent. The respiratory pauses grew longer and the respirations more feeble. The number in a group sank as low as eight, and the cyanosis was extreme, persisting through the entire cycle. The length of the pause was now about 45 seconds. The extremities were cold and the pulse almost extinguished. Over the heart faint sounds were heard at irregular intervals. Vigorous stimulation with heat, whisky and nitroglycerin were employed, and the patient finally rallied. Two days later he was so much improved that he insisted upon sitting up in bed. The inflammation receded from his face, and the irregularity of respiration gradually disappeared. It was still observed during sleep for a number of days, though the type was not so clearly marked. In the second week of convalescence the patient suffered a relapse. The attack was not as severe as the first, but the Cheyne-Stokes' breathing again appeared, lasted a few days, and disappeared upon the subsidence of the erysipelas. Since then the patient has regained a moderate amount of flesh and strength, is able to be about, and has shown no serious symptoms. He complains of pains in his legs and finds walking difficult, usually requiring the assistance of a cane.

It is possible of course, that the patient may be suffering from a latent chronic disease of the heart or kidneys; or, since sugar in small quantities has been found in the urine, he may be suffering from diabetes in an incipient stage, or a mild form. If this be true, the toxemia of the acute disease, superadded to the abnormal conditions already present in the system, brought about, in all probability, the interesting manifestations described.

Note. Since this paper was written I have seen an instance of Cheyne-Stokes' breathing occurring at the height of the spasmodic stage of whooping-cough in a healthy, breast-fed infant five months old. The phenomenon was observed during the sleep that followed the paroxysms. The breathing period lasted about six seconds, the apneic period four seconds. There were usually five respirations in a group. During apnea both the rate and pressure of the pulse were diminished, and

the pupils were contracted. The condition lasted about a week, gradually disappearing as the paroxysms grew less severe. The case was uncomplicated in other respects.

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On the Value of Obtaining the Urine from Each Kidney Separately with a Description of the Different Methods Employed

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One of the most prolific sources for suggestion and experimentation, as well as for the clinical application, has been the subject of the separation of the urine for the purpose of ascertaining the physiologic condition of each kidney. The reason for this must at once be apparent to every clinician. The rapid strides made in renal surgery, by bringing within its domain many diseases of the kidneys that were formerly considered inoperative, have increased the desire for a more definite diagnosis. Now that means are at hand for differentiating, it is not enough to say that a given patient has some disease of the kidneys, but it is necessary to know if both kidneys or if only one is diseased. If both, how severely each, if only one, which one, and to what extent, and what is the condition of the other? These are important questions, and can only be answered by a proper separation

and a complete analysis of the urine from each kidney separately. The importance of this has long been recognized and various devices have been resorted to for this purpose. The first attempt of this nature dates from the year 1875, when Tuchman, of the German Hospital in London, first advanced the method of compression of the vesical extremity of the ureter, and collected the urine discharged into the bladder from the opposite unobstructed ureter. The instrument which he employed for this purpose resembled, in its general appearance, a modern lithotrite, a long sound, with a curved beak, divided into two blades. The closure of the ureter was accomplished by compression of the elevation formed by the penetration of the ureter through the vesical wall, termed "*Harnleiterwulst*," between the two blades of the instrument. This eminence, Tuchman states, can be easily detected by this instrument. The clinical application of this method practised on several patients, and on his own person, is said to have succeeded with great facility, and to have been followed by no deleterious results.

Simon, however, within a year following this report criticized this method of ureteral compression, as being both inefficient and inaccurate, and at the same time advanced the method of catheterization of the ureters. In this method he describes the catheterization of the female ureters which are made accessible by the dilation of the urethra, with a special urethral dilator. After the dilation of the urethra, the finger is introduced into the bladder, and the *ligamentum interuretericum* palpated. The catheter is then passed along beside the finger as a guide, and the orifice of the ureter sought. These two methods,—that of Tuchman and Simon,—represent, in principle, the two classes diametrically opposed to each other, into which all the methods since then advanced readily separate themselves. One is the indirect method, in which the obstruction of one ureter is practised for the purpose of obtaining singly the urine secreted by the opposite kidney. The other is the direct method in which the urine is directly obtained from the ureter, either by inserting a catheter into the ureteral orifice, or by dividing the bladder into two compartments and obtaining the urine separately from each side. In the indirect method, the obstruction of the ureter has been effected in various ways.

Hegar, in 1875, speaks of a case in which the thickened ureter could be palpated through the anterior vaginal wall, and in which, for the purpose of differential diagnosis as to the source of the existing hematuria and pyuria, it was attempted to com-

press this thickened ureter against the pelvic wall. Owing, however, to the severe pain occasioned thereby, this maneuver was abandoned, and a temporary ligature of the ureter resorted to instead. The difference in the urine before and after ligation was found to be very noticeable, the blood having entirely disappeared and the pus greatly decreased. Sanger, in 1886, suggested a similar method; and in a later report by Warkalla in 1887, this method had been applied on cadavers, and was successful in 10 cases, but in two of these the needle passed through the bladder. In 1887, Everman proposed to compress the ureter by a two-armed instrument, one of the branches being inserted into the rectum, the other into the bladder. Sands practised digital compression through the rectum; and Wier, in 1883, advised the compression of the ureter against the pelvis by introducing a Davy's rod into the rectum as used in compression of the iliac arteries in hip-joint disarticulation. Polk, in the same year, reported some experiments in this direction.

Much more concise is the method of Silberman, of introducing a catheter with a fenestra near its end. At the end of the fenestra is a rubber balloon, covered during the introduction of the instrument by a slide, which, when in position, is filled with quicksilver, thus forming a heavy artificial tumor which was pressed against the ureteral opening. All of these various methods, based on either indirect compression or obstruction, have had but a limited application and have been of short duration, so that at the present time this practice has been completely abandoned. Since Simon's first catheterization of the ureters, numerous other methods have been advised, the most important of which is that of Pawlick, reported in 1881, and later so practically worked out by Kelly, consisting of direct catheterization by reflected light through a urethral speculum, the bladder being distended with air. Prior to Pawlick,—Emmet had catheterized the ureters by operatively establishing a vesicovaginal fistula in a longitudinal direction, everting the margins of the wound, and then introducing the catheter into the bladder and ureter. Boseman subsequently resorted to the same measure. Other methods in which operative procedures were practised, are those of Czerny, Iversen, Harrison and others. Additional methods not operative in their nature are advanced by Lewers, Fenwick and Stein. Fenwick, in speaking of all these methods, other than catheterization through the urethra, says they are lacking in simplicity, safety and success. There remain then but two practical methods for obtaining the separate urines,—one, catheterization of the ureter,—the other,

by forming a septum in the bladder, either by using the bladder wall, or by the use of some mechanical device, and draining the urine from each side.

The first application of the latter method was by M. L. Harris, of Chicago, by the use of his very ingenious instrument, the "Segregator." Later, a similar instrument was devised by Downes, and more recently, a clever instrument by Luys of Paris, the "Separator." These instruments are easier to use than the instruments for catheterization, but unfortunately cannot give us so complete a separation, nor can we locate by these instruments the exact seat of the disease, whether in the upper or lower urinary tract. It is then upon the former method, that of catheterization, that we must rely for precise information.

Two methods are in vogue for catheterization of the ureters, the methods of Pawlick and Kelly, and the other by the aid of the electric lighted cystoscope with its catheterizing attachment. The method of Kelly is only applicable to females. The electric lighted cystoscope is applicable to both male and female. Cystoscopy and catheterization by the electric lighted cystoscope is done either by distending the bladder with some transparent solution, or by distending with air. The instrument for the former method is of foreign make. The latter is an American product. Each has its own advantages. When the solution cannot be kept translucent or transparent, the latter may be used. The success of each depends upon the individual operator.

There are cases in which none of the methods can be used, but such cases are very rare. If, then, the peculiar advantages of each instrument be recognized, in almost every case a separation of the urine can be accomplished.

In 18 cases of males which have come under the writer's observation within the past three months for separation of the urine, I have failed to catheterize in two cases—one being a contracted and irritable bladder in a very nervous patient, in which I could use neither the cystoscope nor separator; and in the second I was unable to locate the ureteral openings on account of a severe cystitis. In this case I was able to use the Luys separator. In all but two cases double catheterization was done at the same sitting. In each of the other cases but one catheter could be introduced. In one it could not be introduced on account of an obstruction at the mouth of the ureter, probably a renal calculus, and in the other on account of the peculiar angle of the ureteral opening.

In all the cases in which I have been called upon to catheterize in the female, I have as yet had no complete failure. The objec-

tions advanced against catheterization are that there is danger of carrying infection to the kidney, and that it is of difficult application. As to infection, there need be very little danger if proper precautions are taken. Casper, in more than 500 catheterizations, has not had a single case of infection following the use of the catheter. Other operators of large experience report similar results.

That it is a difficult operation cannot be denied, and in the use of the cystoscope, as in the use of the ophthalmoscope and laryngoscope, a great amount of practice is necessary to successfully operate it. The cystoscope now occupies as important a field in the profession as does either of the other instruments, but like these, it requires special education for its successful use.

Among the most important indications for the use of this instrument are hematuria and pyuria. As an illustration of its use in hematuria, I can give no more striking example than to present this specimen with the history of the case.

A male, aged 45, a grocer by occupation, was seen in consultation with Dr F. J. Schmoldt. The patient has always been healthy until about one year ago. For the past year he has been treated at his home in Texas for some kidney trouble. He has been compelled to get up three or four times during a night to urinate. This has continued for about six months. For about two weeks he has had blood in the urine, considerable headache, general discomfort, and has been very nervous. There has been soreness through the back and abdomen, the tongue has been coated, the skin dry, the pulse 80 and full and strong. The prostate is normal. Cystoscopic examination: The walls of the bladder were normal. The ureteral openings were easily found. A small stream of blood could be seen flowing from the left ureteral opening. Catheters were easily introduced into both ureters. Clear urine was obtained from the right ureters, but that obtained from the left was bloody. About twice the quantity of urine was obtained from the left ureters as from the right in the same length of time. There was albumin in both specimens, and a large number of casts. The freezing-point of the left ureter was 56 and the right 59. Diagnosis, interstitial nephritis.

The patient left in two weeks for his home in Texas, where he died 10 days later. Without separation it would have been impossible in this case to have stated from where the blood came. Unfortunately it was a case in which nothing could be done.

Its value in pyuria is well illustrated by the following case, which I saw through the courtesy of Dr Crile.

A female, aged 36, married, for about two years has had more or less discomfort in the right side. This pain became progressively worse. Pus was found in the urine, night-sweats were present, and finally a tumor developed. Examination of the pus in the bladder showed tubercle bacilli. Upon introduction of the cystoscope, both ureteral openings were easily found, and from the

left ureter urine could be seen spurting, while from the right came pus. Introduction of the catheters was easily made. From the left, urine flowed freely, from the right there was no flow. The right catheter was washed out with boracic solution, but it was impossible to get any urine from the right side. The examination of the urine from the left kidney showed a freezing-point of 124. A few leukocytes and some red cells were present but no casts were found. The object of this examination was not so much to demonstrate the source of the pus as it was to ascertain the functioning condition of the other kidney. With a freezing-point of 124 and no casts, it was considered absolutely safe to operate upon the right kidney. This organ was removed by Dr Crile. A large pus sac constituted the mass. It is evident that no part of the kidney was functioning. The patient made an uninterrupted recovery, and left the hospital in splendid condition. In a similar case, for the same surgeon, the source of pus was ascertained by the cystoscope. The kidney was removed and the patient made a good recovery.

In cases of bacteriuria it is important to know the source of infection, and this again can be demonstrated best by citing a case which I catheterized for Dr C. F. Hoover.

Male, aged 45, has had motile bacilli in the urine for a considerable time. As it was impossible to state the exact source, both ureters were catheterized, and a pure culture of the colon bacillus was obtained from each kidney.

These cases not only show the value of obtaining the separate urine for diagnostic purposes, but in this way we are also able to obtain the further information; the exact function of both kidneys is an important thing to know in surgical operations on the kidneys. The importance of this has been more fully brought out in a recent paper by the writer, "On the Diagnosis of the Renal Function, and its Relations to the Surgery of the Kidneys." Pain is not a reliable symptom in diseases of the kidney, for many cases have been recorded in which the pain was in the opposite side from the diseased organ.

Besides the value of locating and diagnosing diseases of the urinary tract, the ureteral catheter has a place in treatment, and especially in the surgery of the ureters, also for irrigations of the pelves of the kidneys.

In none of the cases has a general anesthetic been used. Many of the cases have been catheterized at my office. Local anesthesia by the use of a 4% solution of eucain is quite sufficient. In most cases there is very little pain. This is especially true in the female. When the operation cannot be done under local anesthesia, a general anesthetic should be given.

A Case of Face Presentation—Mentoposterior Position

F. S. CLARK, A. M., M. D., CLEVELAND

Face presentations are seen once in about 275 cases, and the chin is posterior nearly as frequently as it is anterior. When it is anterior, and this is the most favorable position, the pelvis must be roomy or the head of the child small, and the soft parts of the birth canal must be soft and easily distended to allow a natural delivery. Labor is difficult even with these favorable conditions. Natural delivery is impossible when the chin is posterior, unless the above conditions are so favorable as to allow anterior rotation, and this is too rarely the case to warrant any prolonged delay before interfering. When there is but a slight deviation from these favorable conditions, if the proper measures to correct the difficulty are not applied early the labor will prove most severe, being disastrous not only to the child, but also to the birth canal, with its attendant dangers to the mother.

It is because these cases are rarely seen, and because when seen, they may cause such serious results that I feel justified in reporting this case tonight.

The patient, Mrs W. aged 24, and a primipara, had been in labor about 18 hours when she called her physician Dr C., of Glenville. On examining the patient he found a face presentation with the chin posterior. Shortly afterward he asked me to see the case to determine the best method of procedure, remarking that there was a small pelvis.

When I reached the house I found that the patient was having pains every five minutes, that they were not very severe, and that she was making no effort to help herself. Abdominal palpation showed the child's head to be above the inlet of the pelvis, the occiput being on the left side of the mother's abdomen and reaching nearly to the umbilicus. The small parts of the child were on the mother's right side. The fetal heart could be faintly heard through the right side, though not distinctly enough to count the beats. With extreme extension of the fetal head the heart sounds must be heard through the chest instead of the back of the child, and will not be heard so plainly for obvious reasons. Measurements of the pelvis showed the following diameters: Spines 23 cm., crests $26\frac{1}{2}$ cm., external conjugate 18 cm. Each of these are 2 cm. below the average. Vaginal examination

showed the diagonal to conjugate to be $11\frac{1}{4}$ cm., giving a true conjugate of $9\frac{1}{2}$ cm., $\frac{3}{4}$ cm. less than the average. The os was one-third dilated, the cervix being soft and thin. The membranes were intact. At the brim, crowded against the pubic bones, was the brow slightly nearer the symphysis than the left ileopectineal eminence. Posterior and to the right could be felt the right eye and cheek. The chin was too far posteriorly to be felt.

We were confronted by a condition which made natural delivery an impossibility, and we had two methods of treatment to choose from namely, version and manual flexion of the head, with a natural or instrumental delivery following. Version was not seriously considered for the os was only partially dilated, the perineum was rigid and with a pelvis below the average in size, even though slightly so, the delivery of the aftercoming head would be difficult, and the risk of losing the child would be too great to warrant its choice.

The other method, flexion of the head, remained, and its success would depend on whether the occiput could be held in its new position. Whether it would be best to wait for natural delivery or to use forceps depended on the success of the flexion and whether the child's head was larger than the average.

Under anesthesia, and after proper preparation of the patient, the membranes were broken and by bimanual manipulations the head was flexed, bringing the occiput into the brim and to the left, anteriorly. Care was needed not to injure the eyes with the internal hand while raising the head preparatory to flexion. Most of the flexion was accomplished by external manipulation, though this alone was not sufficient. The head was held in the new position until the liquor amnii had drained out, allowing the uterus to contract upon and hold the head in place. By pressing down on the fundus of the uterus the head could be made to enter the brim sufficiently so that the outlook appeared to be favorable for a natural delivery. Examination of the fetal heart showed it to be 136 and strong, so that the condition of the child did not require haste in delivery. It is interesting to notice that the fetal heart could be distinctly heard on the left side of the patient as soon as the head was flexed, while before this it could only be faintly heard and then on the right side. The patient was allowed to come out from under the effects of the anesthetic and $1/30$ of a grain of strychnin was given hypodermically. The uterus soon began to contract, and the os rapidly dilated so that with the voluntary efforts of the patient, she delivered herself of a living child in three hours.

There are a few points suggested by the history of the case which are of interest. The measurements of the child's head were biparietal $9\frac{1}{2}$ cm., suboccipito-bregmatic $9\frac{1}{2}$ cm., and occipito-frontal 12 cm. These measurements are interesting when compared with those of the pelvis and showed that a biparietal diameter of $9\frac{1}{2}$ cm. had passed through a conjugate of $9\frac{1}{2}$ cm. which was not so difficult when we remember that we can as a rule count on the compression of the maternal parts and the moulding of the child's head to give a gain of at least $\frac{1}{2}$ cm. The thorough flexion of the head aided materially the passage of the head through the birth canal.

The measurement of the pelvis demonstrated a fact which I have often observed, that even though the external diameters are considerably below the normal, if they are proportionate, the true conjugate is not necessarily shortened enough to prevent passage of the head if it is in a good position.

Among the different causes of face presentation is a small pelvis and this, though not excessive, undoubtedly had an influence in the case reported.

The case also illustrates the point that a slowly dilating os, while it may be because of a rigidity of the cervix, is usually due to an abnormal position or small pelvis. When, then, conditions of the cervix are so favorable to a rapid dilation of the os, as in this case, and it is taking place slowly, unusual care should be taken in diagnosing the position of the presenting parts accurately and as early as possible. It is because a correct diagnosis had been made by the physician in charge that a successful result was so easily obtained, for a delivery without a very difficult forceps operation or a mutilating operation would have been impossible if there had been delay enough for the head to become firmly fixed.

It was a disappointment to the patient and her husband that I did not deliver with forceps. This would have made a nice operation and saved much time, but there was not the first indication for such an operation, and it could only have been condemned even if perfectly successful. Forceps are a powerful instrument for good when indicated and properly used, but are very dangerous when not indicated.

The patient made a perfect recovery not having a degree of fever, and the child when heard from a month later was strong and healthy.

Instructions Issued by the German Government for the Education of the People on Tuberculosis

TRANSLATED BY JOHN H. LOWMAN, M. D., CLEVELAND

(A)—WHAT IS TUBERCULOSIS?

Tuberculosis is the most destructive of all communicable diseases. It attacks all parts of the body, though more often the lungs. It spares no country, no age, no calling, no class. In Germany over 100,000 people die of it yearly, and the number of those suffering with it is estimated at 10 times as great. Every third human being between the ages of 15 and 60 years succumbs to tuberculosis.

Tuberculosis is caused by the tubercle bacillus discovered by Robert Koch, a tiny organism of the lowest form of life, and only visible through the strongest microscope. It thrives best in blood heat (about 37 Celsius) and multiplies in the interior of the body. In the exterior world it is propagated mainly through the expectoration of tuberculous people, and in the milk of tuberculous animals.

Every human being is exposed to the danger of the tubercle bacillus, and may have it in his system for a long time without knowing it. Everyone should, therefore, prepare for the conflict against this universal enemy.

The tubercle bacillus is most effectively destroyed by means of a high degree of heat accompanied by moisture, therefore best through boiling or high-pressure steam. It cannot long withstand sunlight. Special knowledge is required for the efficacious and safe use of other disinfectants, such as creosote or carbolic acid mixtures or formaldehyd.

(B)—HOW IS INFECTION TAKEN?

Hereditary tuberculosis is rare. Tubercle bacilli are taken into the system:

1. Through breathing in the bacilli from the dry sputum of a consumptive, which, mingled with the dust, is scattered by wind, draught, or sweepings or carried about on shoes or clothing; or from the infinitesimal drops of moisture which an invalid throws out in his vicinity when coughing or talking.

2. With the food, principally from unboiled milk, and also from the meat of tuberculous animals, which, through insufficient meat inspection, has been thrown upon the market, and not sufficiently cooked before eating.

3. Through a diseased place, or a wound, in the mucous membrane or the outer skin, especially through the medium of dirty hands. Children crawling on the floor expose themselves to the danger by carrying the hands afterwards to mouth or nose. The same can be said of anyone after touching soiled objects of any kind, clothes, handkerchiefs, etc. Picking the nose, biting the finger-nails, sucking the thumb, or wetting the finger in turning over the pages of a book come under this same category.

Furthermore by means of dirty articles, as, for instance, by putting into the mouth, toys, drinking-glasses, dishes, or wind-instruments which have been used by others; finally by little unnoticed wounds, scratches, scabs, etc.

With children the effect of infection by tubercle bacilli is usually first noticed in a diseased condition of the glands (for instance those of the neck and abdomen) followed by that of the lungs, meninges, bones and joints (scrofula of the bones, tuberculous humpback, voluntary limping). With grown people the infection by inhalation is the most common, and leads to tuberculosis of the lungs, or, less often, of the larynx. Where the bacilli are taken into the system through the skin tuberculosis of the skin often follows, *i. e.*, lupus, and ulcers. As a rule tuberculosis is a slow disease (chronic), galloping consumption is the exception.

(C)—WHAT MEANS OF PROTECTION CAN BE TAKEN AGAINST TUBERCULOSIS?

In no disease has man, even the weakest and the poorest, the means of protection so fully in his own hands as in tuberculosis, if he will only unite self-control with knowledge.

I.—MEASURES TO BE TAKEN AGAINST THE SPREAD OF TUBERCULOSIS

1. Everyone, the healthy as well as the sick, should see that his expectorations are safely disposed of, for no expectoration shows whether or not it is tuberculous. Therefore one should never spit on the floor of any enclosed room, street-cars, or railway carriages, or on a busy thoroughfare. Spittoons filled with water, or a wet substance, which can frequently be disposed of without danger, should be provided. The best means of disposal is boiling. In coughing the hand should be placed before the mouth, or the head turned away from one's companion. Articles of clothing should always be kept clean, train-skirts should not be tolerated. The dresses, bedding, and underclothes of a tuberculous patient should not be used by others until thoroughly disinfected; dry-

cleaning must be supplemented by wet measures, especially by scouring with hot soda or hot soapsuds. Every dusty corner in the dwelling, the workshop, or the street should be done away with as much as possible. Avoid public houses where spitting on the floor is allowed.

2. The most scrupulous cleanliness should be observed in the preparation and preservation of food, as well as in eating, especially such food as is eaten raw. Great care should be taken to guard food against flies. Meat and milk should be thoroughly cooked before eating; boiled milk should be protected and kept as cool as possible.

3. The hands, including the nails, and the teeth, next to the gums, should be frequently and thoroughly cleansed. Putting the finger in the mouth or nose, as well as scratching the face, should be avoided. Every wound should be protected from infection by proper bandages.

In regard to tuberculosis in animals, it should be mentioned that in cows it appears generally in the lungs, and in swine generally in the glands of the throat or in the bowels; with the former, therefore, the infection is usually taken through inhalation, with the latter through the food, especially in the centrifugalized milk from cheese-factories and unboiled milk.

1. In order to stamp out the disease, all tuberculous cattle must be gradually culled out, especially those affected with visible signs of the disease such as tuberculous lumps on the udders, cough with emaciation, rough hair, etc. No animals who are feverish from tuberculin injections should be used for milk laboratories or for breeding purposes.

2. Calves must be separated from tuberculous mothers.

3. Calves and young cattle must have abundant out-door exercise, and old cattle as much as possible.

4. Boiled milk and whey must be used for the feeding of swine.

5. Tuberculous persons, especially those with sputum, must be excluded from the care of cattle.

6. Stalls must be kept clean.

II.—RULES FOR STRENGTHENING THE BODY

It is not possible to kill off all the tubercle bacilli. It is, therefore, necessary to strengthen and harden the constitution so that the germ cannot attack it. The principal means are:

1. First, simple and nourishing food, which when properly selected need not be expensive. Dainties and spiritous drinks should be avoided.

2. A dwelling open to the air and light, preferably outside the city, the best room in the house should be chosen for the sleeping apartment.

3. Simple and durable clothing, made from light-weight material and neither too warm nor too cool, though it should be somewhat warmer when resting or sitting down than for exercise. All foolish styles which hamper the free movements of the body should be done away with, as, for instance, corsets, bands, etc.

Besides these absolutely necessary things there are certain other rules to be observed.

Absolute cleanliness and regularity in all the conditions of life are among the most essential. The body should be washed daily in moderately cold water, or rubbed off with a damp, rough towel; or one may bathe in a clean running river, or the sea, or take a shower bath, with the head well protected. The hair, beard, teeth, and mouth, as well as the nails, should be kept clean. One should breathe through the nose with the mouth closed, the nose being the natural filter for dust or injurious substances. If continued breathing through the nose is hard, seek the advice of a physician, the difficulty is often easily removed.

Do your work, and do it with all your strength,—it gives you strength in return,—but endeavor as far as your vocation will allow to follow healthful employment. Use all precautionary measures. Avoid stooping positions in doing brain work. If you are an employer of labor endeavor to do away with, or at least mitigate, all harmful influences (smoke, dust, etc.) Work should be done, and rest taken under proper conditions.

One's leisure hours should be passed in strengthening that part of the body which has little use during work. Take outdoor exercise. Take long, deep breaths in the open air with the hands placed against the sides. Accustom yourself to going out in bad weather, on coming in change wet clothes or shoes. Gymnastic exercise, especially out-of-door exercise, taken in proportion to the bodily strength, which is increased by means of walking, ball-playing, moderate wheeling, rowing, swimming, etc., is the best ally in this war against tuberculosis.

Go to bed early. Avoid all kinds of excesses, they destroy in a short time what it has taken a long time to gain. A glass of beer, not too cold, or a cup of tea or coffee, not too strong, or a cigar taken at the right time, may do little harm to a normal, full-grown person, though too much will do great harm.

Finally, avoid intercourse with persons suffering with contagious diseases. When duty or vocation demands such intercourse keep well in mind all precautionary rules. If you move into a house formerly occupied by a tuberculous person have it first thoroughly disinfected.

(D)—ADVICE TO PEOPLE WHO ARE IN ESPECIAL DANGER

Everyone should observe the foregoing rules, especially those who, more than others, have cause to fear tuberculosis. Weak people such as those with long narrow frames, and flat

chests, especially if they are descended from tuberculous parents, are in this category. Furthermore, those who have reason for fearing that in their childhood, through intercourse with consumptive people (relatives, nurses, comrades, or playmates or following some scrofulous, or like disease), the germs of tuberculosis may have already entered the system. Also those whose vocation is dangerous (office work, or work in a dusty atmosphere); finally all convalescents from severe illnesses, or those who have suffered from lung or chronic throat troubles, asthma, measles, influenza, diabetes, or anemia, or are subject to hemorrhages of any kind (nose bleeding, etc.)

Where one has a delicate constitution great attention should be paid to the choice of a vocation. A business which takes one into the open air, and hardens the body, is better than sedentary occupation in an office. Men with sensitive breathing organs should avoid or guard against not only dust (therefore any business conducted in a dusty atmosphere), but also smoke (tobacco smoke included), and cold or raw wind. Speaking in the cold air, or while driving, should be avoided, and care should be taken against catching cold, or over-exerting oneself.

Not less important is the careful carrying out of all protective measures in all places where, for business or pleasure, people are brought together in large numbers (in factories, business offices, poor-houses, orphan asylums, and in schools and colleges, especially where the pupils happen to study under a teacher suffering with tuberculosis). Neglect of tuberculosis in one single case endangers the entire community.

(E)—ADVICE FOR PEOPLE ALREADY INFECTED

Should symptoms appear which awaken suspicion of a more than passing affection of the breathing passages—recurrent cough (dry or with sputum), recurrent pain in the side, throat, chest, or back, a continual breaking down, or weariness not caused by previous exertion, lack of appetite, and loss of flesh, recurrent fever, especially towards evening, with night sweats, traces of blood in the sputum, or hemorrhages from the throat—a thorough examination should be made by an expert physician, and the sputum examined for tubercle bacilli. Should the suspicions not be verified the rules under (D) should, nevertheless, be carefully followed. Should the suspicions be verified the first thing to do is to obey the regulations laid down by the physician. Nothing will help one if the patient does not himself observe the common rules of health and follow closely the precautions which apply to his

especial case. A twofold duty confronts the patient, care for his own recovery, so that he may once more become a useful and capable member of society, and thought for the measures necessary to protect his family, friends, and associates from infection by himself. Tuberculosis in the early stages is often cured, in advanced cases seldom. The result depends upon the measures taken.

Special care must be taken of the sputum. It must not be swallowed, nor spit upon the floor, but into a vessel provided for that purpose, which is regularly disinfected. The best is the pocket flask, after the style of the Dettweiller flask, which the patient can carry with him. If by chance at any time the sputum should be wiped off on a handkerchief the handkerchief must be boiled before allowed to dry.

The disease can also be transmitted by kissing. A pronounced consumptive is strongly advised against marrying—he should wait until he is cured. Tuberculous women should not suckle or take care of children.

Where there is fever, or inclination to hemorrhage, rest and great care of oneself are unconditionally recommended. The quiet breathing in of pure, sun-warmed air, free from fog, dust or smoke, is of great value. This can best be attained reclining on a couch in a sheltered place in the open air, having the body comfortably protected with coverings.

A cure is more easily effected in sanatoria than elsewhere, especially those devoted to lung troubles and recommended by an experienced physician. In a stay of not too short duration (not less than three months) an obedient and attentive patient not only gets back his health, but also learns the necessary rules for living that will prevent a recurrence of the trouble.

The Clinical and Pathologic Section of the Academy of Medicine

At the third regular meeting held on December 5, 1902, Dr C. J. Aldrich presented a case of hysteric aphasia in a boy 13 years old, otherwise developed and apparently normal both physically and mentally.

Dr C. F. Hoover reported three cases of "Rheumatic Phlebitis."

Dr E. E. Brown reported a number of cases treated with nitrous oxid gas and oxygen as an anesthetic, and gave an interesting exhibition of the apparatus for his form of anesthesia. This

paper was followed by a long and interesting discussion of the points involved. The meeting was closed by a paper from Dr F. S. Clark which appears in this number of the JOURNAL.

At the fourth regular meeting held on the evening of January 2, Dr W. T. Corlett presented a case of dermatitis herpetiformis of Duhring.

Dr W. E. Wirt showed a case of double flat-foot. The first paper of the evening was a report of a case of syphilis of the stomach by Dr R. H. Birge, which was followed by a paper on "Intestinal Perforation Occurring During a Course of Typhoid Fever" by Dr C. E. Briggs.

At the fifth regular meeting held on the evening of February 6, 1903, Dr G. W. Moorehouse presented a case of unilateral edema of uncertain origin in a woman aged 40. Dr A. F. House read an interesting paper on some freaks in the surgery of the gall-bladder and duct with a report of cases and exhibition of specimens.

A very interesting paper on hyperostosis cranii and Paget's disease with exhibition of specimens by Dr C. A. Hamann closed the program of the evening.

Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

Typhoid Fever: O. T. Osborne in the *International Clinics* (Vol. 111, Twelfth Series), states that if intestinal hemorrhage occurs, the indication is for absolute rest. If the hemorrhage is slight, food should be stopped for a few hours and morphin should be given either by the mouth or hypodermically so as to secure peristaltic rest, and prescribe one of the tannic acid preparations in capsules for its local astringent action. Tannic acid itself being too irritant, he uses protan, a neucleoproteid with tannin in half-grain capsules every three hours; tanningen in the same dose, or tanalbin, may be used. Gelatin is used as a coagulant, either given by the mouth in the form of wine jelly, or injected into the subcutaneous tissue, or into the muscles in aseptic solution. He believes that ergot is of no value whatever in this condition, but nitroglycerin by dilating all of the blood-vessels will relieve the tension in the internal vessels. If hemorrhage is severe an ice poultice (cracked ice with saw-dust or bran) may be applied to the right iliac fossa, or an ice bag may be used. Elevation of the foot of the bed prevents restlessness from brain anemia, and if collapse is imminent, transfusion or hypodermoclysis with saline solution should be used. A sudden drop of temperature, pallid face, and lack of good tone of a pulse, previously all right, should make one suspicious of hemorrhage, even though no blood has passed, and treatment should be the same.

Stimulation in Children: H. W. Cook, in the *American Journal of the Medical Sciences* for March reports the results of drugs used for stimulation upon the systemic blood-pressure. The routine stimulants were alcohol, strychnin, digitalin, and occasionally atropin. To infants over one month and under fourteen to sixteen months strychnin and digitalin were usually given in equal dosages; $1/400$ grain to $1/200$ grain however is not excessive, and especially in desperate cases it was necessary to produce an appreciable effect, while in infants of two years this sized dose is usually necessary to be effective. The response to strychnin was usually indicated by a rise in blood-pressure in from 10 to 20 minutes. Digitalin in equal doses seems to have a more immediate action than strychnin, rather more sure, and causes a higher rise in blood-pressure, which usually begins in from five to ten minutes and lasts from one to three hours. While the effects of alcohol were not uniform, many cases showed a gradual, steady and well-maintained rise in blood-pressure under repeated doses of the drug, and at the same time showed improvement by general symptoms, so that the best effects from alcohol would appear to be the result of repeated doses rather than that of any individual dose. Where the demand for a stimulant is only moderate it would seem best to start with alcohol in doses of from five to 30 drops, according to the age of the infant. It should be given well diluted, and repeated every two, three or four hours, as seems indicated. Besides what stimulant action alcohol may have, it is a food and acts as a conservator of energy, even where its stimulant effect is not apparent. The administration of alcohol thus seems the treatment of choice in the more or less toxic and marantic conditions in children, and if care is taken to avoid over-stimulation, or upsetting the stomach, a child can scarcely take too much. This form of stimulation may be all that is necessary, but in case they do not improve, or they cannot take alcohol, strychnin is of great value in doses of $1/400$ to $1/200$ grain, repeated as infrequently as the maintenance of a safe blood-pressure will allow. In sudden turns for the worse during a disease, in threatened collapse, in acute prostration, or other rapidly developing conditions of lowered vitality, always accompanied by low blood-pressure, digitalin is the drug of choice, followed by strychnin. Digitalin $1/200$ of a grain, perhaps repeated, will sometimes bring back an infant apparently on the verge of dissolution, and is best followed by strychnin, which maintains the rise in blood-pressure longer than digitalin alone. Hypodermic administration of strychnin and digitalin is most satisfactory, while alcohol may be given by the mouth.

Heroin: S. E. Earp, in the *Therapeutic Gazette* for February asserts that he has obtained good results from the use of heroin in pneumonia, pulmonary phthisis and bronchitis, and that it has a specially quieting and soothing influence in cases characterized by an aggravated cough. The number of respirations are notably diminished by the drug; and he has observed great relief in cases of profound dyspnea. In asthma and whooping-cough very pro-

nounced amelioration has followed its use. In influenza it not only renders the manifestations mild but he believes shortens the course of the disease. He knows no better remedy in phthisis to relieve the cough and produce calmness and quietude. It should be remembered that heroin is a derivative of morphin, and should be cautiously used in the two extremes of life.

Saline Infusion: J. Byrne (*Merck's Archives* for February), summarizes the indications for saline infusions as (1) to supply volume to the blood, and fluid to the tissues. They are thus indicated when the body has lost blood by hemorrhage, or fluid by intestinal flux, wasting diseases, continued fevers, etc. (2) To stimulate the vasomotor apparatus and are hence indicated to combat shock and allied conditions. (3) To act as hemostatic, so valuable in hemorrhage, especially internal hemorrhage. (4) Elimination or dilution of toxins. The quantity of solution to be used depends on circumstances, and varies from a few ounces to several pints. The chief guides are (1) improvement in facial color, and expression, or return of consciousness. (2) Improvement of the pulse with increase in tension and volume and diminution in rate. The infusion may have to be repeated in a few hours in case the patient shows signs of relapse.

Urotropin: Mark W. Richardson in the *Boston Medical and Surgical Journal* for February 5, thus summarizes our knowledge of the value of urotropin as a urinary antiseptic in typhoid fever. (1) Typhoid bacilli are present in the urine of about 21% of individuals afflicted with typhoid fever. (2) The bacilli when present are generally in pure culture, and their number is frequently enormous—many millions in each c. c. of urine. (3) The invasion of the urine by the bacilli takes place in the later stages of the disease. (4) The necessity for the rigid disinfection and supervision of typhoid urine is apparent. (5) In urotropin we have a drug which will in the vast majority of cases remove the typhoid organisms from the urine, not only in cases of simple bacilluria but also in those in which a cystitis has resulted. It is his opinion that no typhoid convalescent should be discharged as well until his urine has been proved permanently free from bacilli.

Morphin: T. D. Crothers in *American Medicine* for February 21, especially emphasizes the well-known dangers from the indiscriminate use of morphin, making prominent the fact that while morphin is a most valuable remedy, and cannot be dispensed with in medicine today, it is an exceedingly dangerous one, and should be used with caution, and never long continued except for special reasons, and under special conditions. The second fact he emphasizes is that morphin given to neurotics and psychopaths is almost certain to increase the brain and nerve degeneration and even if it does not produce an addiction, it will increase the in-

stability of control and the hypersensitiveness of nerve centers. Physicians should be more careful in the use of narcotic drugs, particularly opium and its alkaloids, and remember that many obscure diseases can be traced to reckless medication and are the direct result of poisons from morphin.

Rheumatism: J. J. Walsh in *American Medicine* for March 14, states concerning obstinate subacute rheumatism that there remains in certain minds an idea that the salicylates are specifics for rheumatism. Anyone who has seen patients treated with the coaltar products, such as antypyrin or phenacetin, soon realizes that the effects are practically the same from the various coaltar products, and that what the salicylates really do is to lessen the pain, lower the fever, and make the patient more comfortable. There seems to be almost a consensus of clinical opinion however that the salicylates are the best symptomatic remedies for rheumatism. There are in spite of this a certain number of cases of acute articular rheumatism which are not affected even by large doses of the salicylates, and hence certain cases of rheumatism which are obstinate to the salicylates are really due to some other cause than true rheumatism. Certain patients have a continuance of their rheumatic symptoms beyond the time when they would normally be expected to have relief from administration of the salicylates. In such cases to persist in their administration is almost sure to do harm. All the coaltar products increase the destruction of red blood-cells and the same is true of the salicylates. The underlying condition must be treated, and such supporting and dietary regulations advised as may prove helpful. In general it may be said that most of the cases of obstinate subacute rheumatism are not simple rheumatic arthritis, but the joint affection develops in the presence of a diathesis such as gout, or some blood dyscrasia, or toxemia, as alcohol or lead, or a neurosis or hypersensitive condition of the vasomotor system, all of which facts tend to hinder the normal reaction, and prevent the prompt relief of symptoms that usually occur.

Gonorrhea: Dr R. L. McCready, in the *American Therapist* for December, 1902, states that calcium sulphid internally and the use of picric acid locally has given him exceptionally good results in the treatment of gonorrhea. He gives the calcium sulphid in one-grain tablets every two hours till saturation and then keeps it at that point. Forty-eight hours after the development of the discharge the patient is placed on an injection of $\frac{1}{2}\%$ of picric acid which he is instructed to use at body temperature twice daily. Every second day he reports for a deep urethral irrigation of a warm 1% picric acid solution gradually increased to a 2%. He is thoroughly convinced that the most active gonococides we have at our disposal are the picric acid and the sulphid of calcium which he believes excel all the recent silver salts.

The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and
THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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EDITORIAL

Epidemic Typhoid

In view of the fact that it has been long since well established that typhoid fever is a preventable disease, the constant recurrence of widespread epidemic outbreaks is as deplorable as it is unnecessary. Though we admit that the infection may be acquired in other ways than through contaminated water, yet the history of epidemics, which have not infrequently amounted to a veritable scourge, directly traceable to a pollution of the water-supply, are sufficiently numerous to be alarming, and apparently are growing no less frequent.

Among the most striking instances of water-borne epidemics may be mentioned that at Lausen, Switzerland, in 1872. For 60 years previous to this time this village of 700 odd inhabitants had enjoyed an absolute immunity against enteric fever. On August 7 of this year 10 cases suddenly developed without previous warning. Within the next 30 days, 130 individuals or one-sixth of the entire population were ill with typhoid, the source of which was traced to a direct infection of the public water-supply through a small stream, contaminated at a point several miles distant by a single case.

In this country the epidemic at Plymouth, Pa., is a forcible illustration. In a city of 8,000 inhabitants an epidemic of typhoid fever spread with such startling rapidity, that in but a short time no less than 1,000 cases developed—all directly traceable again to the contamination of a small stream by the excreta from a single case.

The epidemic at Ashland, Wis., in 1893-1894 is cited by Harrington (*Manual of Practical Hygiene*) as being of peculiar interest, in that it serves to illustrate the great danger of using the same body of water as a place for the disposal of sewage and as a source of drinking water.

It was as a direct result of this epidemic that the liability of water companies and municipalities, in a case of illness and death caused by the distribution and use of infected water, was established. Following the legal proceeding instituted as a sequence to this epidemic, a model filtering plant was installed.

The epidemic prevalence of typhoid in Cleveland during the past winter is a forcible demonstration of the necessity for greater watchfulness on the part of those in authority, and of the danger which lurks in a contaminated water-supply.

In this age of modern politics, modern science, and particularly modern sanitation do not always receive its full share of attention from those supposed to be most interested.

The question suggests itself, why should not Cleveland be provided with a modern filtering plant such as has been installed in many a less wealthy community? We are confident that the results accruing from such a plant properly installed and carefully supervised would lower our death-rate and would mean far more to our city in its economic welfare than a host of more popular and catch-penny schemes.

Ideals or Ethics

In a very delightful address by Dr Norman Bridge, delivered in Chicago last year, entitled "Ideals in Medicine" (*Journal American Medical Association*, Feb. 21, 1903), a number of interesting and suggestive facts are brought out bearing upon the relationship of ideals, in the abstract, to their practical application in everyday life.

In our February issue we alluded briefly to the subject of medical ethics as presented in a letter in a previous number of the *Journal of the American Medical Association*. This earlier address by Dr Bridge, though published later, deals more directly

with the individual's personality and peculiarity of temperament as bearing upon his relationship to his co-workers and those with whom he comes in contact. As an illustration of a curious mental state—perversion we should call it—Dr Bridge cites the example of an eminent physician, who when called in in an emergency to see a patient of another physician, always behaved with great loyalty both toward the patient and his physician, but on the following day would make an unexpected call on the same patient. When asked why he did it, he replied, "I do it to see how I stand with the family." It is hardly necessary to quote Dr Bridge's added judgment, "His duty ended when he had served the patient honestly and well."

It is indeed difficult to understand the mental attitude in such a flagrant breach of ethics, and equally difficult to interpret the closely analogous instances, fortunately not common, in which a consultant is guilty of an even greater injustice. Of the consultant who drops in upon the patient not only upon the day following the consultation, but again the day after, it may be well said, as of the eminent physician alluded to above, "His duty ended when he had served his patient honestly and well."

The Clinical Value of Cryoscopy

Based upon the principle that the freezing-point of solutions varies according to the amount and the character of the substances contained in solution, cryoscopy is a method of examination theoretically equally applicable to any fluid.

From a large number of observations it has been shown, according to Kummel, that the freezing-point of normal blood is .56 degrees below that of distilled water. In apparently all systemic conditions in which there is a decided involvement of the renal tissue, the freezing-point of the blood has been found to vary considerably, so much so in fact that it becomes under these circumstances a valuable guide to the condition of the renal function. So much stress has been laid upon this point by certain observers, that they consider it possible to deduce practical conclusions from a determination of the freezing-point alone; and in no case do they advise operative interference when the freezing-point of the blood is below normal.

As, however, so large an amount as 10 c. c. of the fluid to be examined is required for properly carrying out the test, the difficulty of its application in blood-work is at once apparent.

Koranyi was among the first to attempt to establish a prac-

tical application of this method in the examination of the urine, and showed that an impairment of the renal function was quickly followed by a fall in the freezing-point of the urine excreted. According to this observer the freezing-point for normal urine ranges from 1.3 degrees to 2.3 degrees below that of distilled water.

As illustrating the somewhat narrow clinical application of this method, the results of a series of 51 cases reported briefly by Turner (*Montreal Med. Jour.*, Jan., 1903) may be quoted.

The freezing-point of 10 normal urines varied between .09 and 2.28 degrees C. In the same individual, presumably healthy, the results varied at different times. Five cases of trauma gave constantly high freezing-points, varying between .03 and .76; three cases of extensive hemorrhage varied from 1.45 to .53, the highest reading corresponding to the greatest loss of blood; eight extensive infections gave high freezing-points, ranging from .04 to .67; five typhoids gave a low freezing-point varying from 1.26 to 1.99; of nine kidney cases, in which a fair amount of urine was excreted, the freezing-points ranged between .74 and 1.97; in one case of septic nephritis resulting in death, with however little destruction of kidney tissue, the reading was 1.14.

It will be seen from these cases that there is a great variation in the results obtained, and as this observer frankly admits it is impossible to draw any accurate conclusions from results so variable.

The application of this test is essentially a somewhat delicate and complicated one. For this reason it must remain at present among the finer methods of examination available chiefly in hospital and laboratory practice. Its real value will undoubtedly be found to lie in the confirmation of results obtained by other and more easily applicable methods of urinary examination.

Intravenous Formalin Injections

In medicine, as perhaps in no other science, the report of a successful issue following a method of treatment somewhat out of the ordinary, gives rise to a large number of similar attempts to obtain a like result in a way that is often appalling, and only too frequently a forlorn endeavor to establish an empirical fact, where an absolute scientific demonstration may be possible if we will but await it.

The successful outcome of a serious case of streptococcus septicemia recently recorded, as the result of the use of intravenous

injections of formalin, aroused great interest, and, not unnaturally, led to a number of similar attempts with more or less doubtful results. In the recent work by Ellbrecht and Snodgrass (*Interstate Medical Journal*, February, 1903) an attempt has been made to ascertain the effect of formalin upon the blood and metabolism of normal animals, as well as upon those the subjects of an experimental streptococcus infection.

As a control, the comparative values of normal saline solution and sterilized water were noted under similar conditions. These observers found that upon a normal rabbit a formalin dilution of 1-500 was well borne when given in doses proportional to a liter in man; and with this observation as a basis to work upon, they used a dilution of 1-2000 in their later experiments. As to the direct effect of the formalin upon the cellular elements of the blood, a most important point, these observers noted in their test-tube experiments a tendency to laking when using weak solutions, and a splitting-up of the hemaglobin into metahemaglobin and hematin when stronger dilutions were used.

Although the experiments detailed in this report have been necessarily limited, the results obtained have been summarized without attempting to reach any definite conclusions, and are not without interest.

Briefly they are as follows: Thirteen normal rabbits were injected with formalin ranging in strength from 1-5000 to 1-500. Of these one died from causes in no way due to the formalin, three were killed for postmortem study, and the remaining nine are living and apparently in a normal condition.

Three rabbits with an experimental streptococcus infection were treated with normal saline solution; two died, while the third at the time of this report was apparently recovering.

Two streptococcus rabbits were treated with a 1-500 dilution of formalin in normal saline solution. Of these one died the day following the treatment, and the other the third day afterward. Two rabbits of this series were allowed to go untreated as a control, and died about 36 hours after inoculation, thus proving the virulency of the culture.

Three streptococcus rabbits were treated with a 1-2000 dilution of formalin in water. Two recovered, and one died after three intravenous injections of the above dilution. This treatment, however, seemed to control the infection somewhat, as the temperature was greatly reduced and life was prolonged until the seventh day. The control rabbit of this series died in 36 hours.

This report is accompanied by a series of graphic reports giv-

ing experiments in detail and also contains a chart showing the bactericidal effect of various aqueous solutions of formalin upon the *streptococcus pyogenes*. From this latter chart we learn that a 1-4000 dilution has apparently no appreciable effect upon the bacteria in this laboratory experiment, for even after 24 hours contact with the dilution, a growth was obtained. In a dilution of 1-200 no growth was obtained after five minutes contact, or in a dilution of 1-400 after two hours contact. In view of the conjectural basis for this treatment, these figures are extremely interesting.

It is to be hoped that these experiments are but the forerunners of a very much larger and even more interesting series. At present it is absolutely impossible to determine the true value of formalin injections, and the action of formalin upon the cellular constituents of the blood must be more accurately known for all varying dilutions, before we can hope to employ so active a measure of treatment with perfect safety.

Out-Door Relief in Ohio

In the address of the President before the Twelfth Annual State Conference of Charities and Correction (*The Ohio Bulletin of Charities and Correction, December, 1902*), there are a number of suggestive figures bearing upon the question of remuneration for medical services rendered in behalf of the out-door relief work throughout our State which we cannot overlook.

From this address we learn that in 1900 and 1901, 30% of the entire out-door relief fund was given to the "political doctors." In 1901 in Morgan county the physicians received \$732.10 out of a fund of \$998.30. In Fairfield, Mercer and Noble counties during this year, they were given three times as much as was expended for food, fuel and clothing. In Ross county \$592.13 was expended to feed and clothe the living and \$1,251 to bury the dead. If we may believe our authority the conditions prevailing last year were but little better, and we are told that in Butler county the trustees paid for medical services \$6,123.55 out of \$6,897.15 which had been raised for the relief of the poor.

Even more startling is the comparison made between Cuyahoga and Hamilton counties, both of which have much the same population and wealth. Cuyahoga county paid out last year for medical services rendered on account of out-door relief work but \$693.93, while Hamilton county gave \$11,852.81 for similar services or nearly 20 times as much as Cuyahoga. Our authority

naively asks can it be that Cleveland is 20 times more healthy than Cincinnati, or is the latter city 20 times more politically corrupt than Cleveland.

Figures such as these are convincingly overwhelming proof of corruption somewhere, and a more tragic miscarriage of a noble charity can scarcely be conceived. It is to be hoped that this year may witness a revolution in the methods of the management of this great work.

"The poor we have always with us," and to the honor of our profession it can be said, without question, that two-thirds of the work done by physicians, as a body, is a gratuitous labor generously and cheerfully given. Such conditions as we have noted above exist unfortunately the world over, a fact, however, which does not make the figures quoted any less disagreeable reading.

The American Congress on Tuberculosis

We desire to call attention to the circular letter which has been sent out by the Secretary of the American Congress of Tuberculosis for the Prevention of Consumption, calling attention to the efforts which are being made to complete the organization of the International Congress of Tuberculosis. The advisory committee, formed to assist in perfecting the plans for the next meeting, to be held in St. Louis, consists of a large number of representative physicians from almost every section of the United States and Canada.

The Secretary asks that he be informed of the dates of all meetings of medical societies, of the names of officers of the same, and earnestly requests any information which will be of help in carrying on, and in organizing this most important work.

The next meeting will be held, as above stated, in St. Louis, Mo., U. S. A., July 18-23rd, 1904; and if the results achieved can be in any way measured by the efforts which are being put forth to make the Congress a success, we may confidently predict a most successful issue for this great undertaking. All information should be sent to the Secretary, Dr George Brown, Atlanta, Ga.

The Dependent Insane

Among the many problems in our social and economic development the care of the dependent insane is rapidly becoming a question of the first magnitude. The rapidity with which the number of these helpless unfortunates has increased during the

last three decades is one of the appalling evidences of the extraordinary growth of our fast-multiplying population.

Difficult as it is to cope with the many perplexing questions arising in connection with this large part of our population, our present difficulties may be well considered trifling in the face of those that may arise if this present rapid increase is allowed to go unchecked.

Taking Ohio alone as an illustration, we find that in 1870 there was one insane person to every 952 individuals in the State. In 1890 this percentage has increased to 1-500; and in 1897 to 1-400. Taking the total number of dependent insane in the State we learn that in 1870 there were 2,773; in 1880, 5,545; in 1890, 7,786; and that at the present time there are the enormous number of 9,995 insane wards cared for in the various hospitals and infirmaries in Ohio.

These figures, it will be seen, represent an increase of about 2,500 for each decade. What is true of Ohio is true also of every other State in proportion to its general population. In the face of such figures as these it behooves us to consider well our duty towards the taxpayer and the State.

Newspaper Responsibility

James Wynn, a farmer who hails from Urbana, came to Cincinnati during the latter part of January in response to an advertisement, and sought medical advice from one "Dr" W. D. Green, on East Ninth Street, Cincinnati. He told the physician about his ailment but said he would pay no money until he had been cured. The "doctor" agreed to this, but gave him two boxes of salve, at cost price, which was \$15. Wynn paid, went his way, but called later and requested more medicine. Again "Dr" Green, in his generous, large-hearted way, gave Wynn some pills at cost price, \$9. Wynn paid this sum and was then measured by the physician for an electric belt, which he was told was necessary, and would cost \$10. Wynn paid over the last-named amount and had no money left to pay for lodging that night, and so wandered about the streets until morning when he was found by the police to whom he told his troubles. On the claims made by Wynn a warrant was issued for "Dr John Doe," but the "Doctor" was not at home nor has he been seen since. If the daily newspapers, which contain all manner of preposterous and absurd medical advertisements that utterly disgust and nauseate all but the most ignorant, really care about doing the public a service, they will look into the ability

and standing of every physician who wants to insert an advertisement, and accept only those who are honest and sincere. If this were the case we would have practically no advertising at all. We fear the unscrupulous greed, luxuriantly fed by full-page advertisements, will never again give way to the less remunerative practice of turning away fakirs and charlatans who have money, under the thin covering of the law, in order to protect and shield an oft unthinking and only too easily beguiled public.

A New Journal

We have to acknowledge the receipt of the first two numbers of *Northwest Medicine* and incidentally to congratulate the promoters of this new journal upon the very successful results which have followed their efforts in producing a valuable addition to medical journalism.

It has been said that there are too many medical publications, but, in this age of investigation, we do not believe that there can be too many sound and well-edited journals. *Northwest Medicine* is published in Seattle under the auspices of the Washington Medical Library Association. It is intended that it shall be neither edited nor maintained in the interests of any particular individuals, or for the advantage of any special section. It is the desire of the promoters to enlist not only the support of the physicians in their own State but those of that great and rapidly developing northwestern territory. The mechanical make up is excellent and we wish this new contemporary every success.

Letter from Dr W. W. Keen

Editor, CLEVELAND MEDICAL JOURNAL, Cleveland, Ohio

Sir: On February 16 I received a copy of the February number of the CLEVELAND MEDICAL JOURNAL in which you state editorially that I "recently placed myself, unfortunately, in an indefensible position" in that my biography and photograph had appeared in "the Sunday newspapers of December 28, 1902." You stated also that it would be "extremely difficult for my friends to assert that I have innocently suffered at the hands of the newspapers."

Perhaps it might have been just as well, and certainly not only a little more courteous, but a little more just, had you first communicated with me and learned the facts. After waiting two

weeks and sending you a telegram and two letters requesting information as to what "Sunday newspapers" you referred to, I finally received from you the information that it was the Cleveland *Plain Dealer*, and in the press of other cities, none of which you could mention by name, as you knew of them only by hearsay.

My reply to your unwarranted statements is simply that, until I read your editorial and later received your letter, I was not aware that either my biography or my photograph had appeared in any of the newspapers referred to.

Moreover, when I received the copy of the Cleveland *Plain Dealer* to which you referred, I found that the text of the article which had appeared consisted of my letter to Senator Gallinger and facts derived from biographical encyclopedias, and that of the two photographs you referred to, one in the laboratory was of some person utterly unknown to me, and the other, the only one to which my name was attached, instead of being a photograph of myself was a photograph of Professor Brinton taken in his own clinic at least five years ago.

Yours truly,

(Signed) W. W. KEEN.

[The above communication from Dr. Keen is published at his request. His statement that his portrait does not appear in the illustrations referred to would evidence their manufacture in some newspaper office. It appears that the article with accompanying illustrations was stereotyped in Philadelphia and in that shape was delivered to such papers as desired to use it. It is evident that Dr. Keen has the very best of reasons for ferreting out and punishing the Philadelphia newspaper men by whom he was in this manner victimized.]

It is unfortunate that the material furnished to the newspapers by Dr. Keen himself in his letter to Senator Gallinger, which according to the Senator appeared in the newspapers before it reached him through the mails, should have afforded so obvious an occasion for newspaper amplification, a point that Dr. Keen no doubt failed to take into account. So far as Dr. Keen may personally have been wronged by our editorial, this JOURNAL regrets its specific statements. So far as the editorial applies to the general principle of the evil of adroit, and maladroit advertising methods, we have nothing to retract. Our expressed wonder that Dr. Keen's clear intellect should have been so entrapped has its justification in his explanation.—Ed.]

Book Reviews

Text-book of Pathology and Pathological Anatomy—By Dr Hans Schmaus, Extraordinary Professor and First Assistant in the Pathological Institute, Munich. Translated from the Sixth German Edition by A. E. Thayer, Instructor in Pathology in the Cornell University Medical College, New York. Edited with Additions by James Ewing, D. D., Professor of Pathology in the Cornell University Medical College, New York. Illustrated with 351 engravings, including 35 colored inset plates. Lea Brothers & Company, Philadelphia and New York. 1902.

The book is one well fitted for the student, as there is very little quotation or entrance into the expression of personal opinion. The subject-matter is compact and seems adequate, and the illustrations are for the most part excellent. An especially notable part of the work is the brief and comprehensive summary of the various parasites other than bacteria. It is to be regretted that there are no remarks as to the supposed organisms in carcinoma and other tumors. The editor has brought the work well up to date to include the more recent articles.

Atlas and Epitome of Diseases of the Mouth, Pharynx and Nose—By Dr L. Grunwald, of Munich. From the second revised and enlarged German edition. Edited, with additions, by James E. Newcomb, M. D., Instructor in Laryngology, Cornell University Medical School; Attending Laryngologist to the Roosevelt Hospital, Out-patient Department. With 102 illustrations on 42 colored lithographic plates, 41 text-cuts, and 219 pages of text. Philadelphia and London: W. B. Saunders & Co., 1903. Cloth, \$3.00 net.

The lithographic plates in this Atlas must be seen to be appreciated. They are remarkably true and life-like pictures of the various pathologic conditions in the nose, nasopharynx and mouth. The histories of cases and epitome of diseases make the Atlas a valuable reference book. This Atlas, with the Atlas of Diseases of the Larynx, and Atlas of Otology, published by the same Company, makes a valuable series of books in this field of medicine which deserve the highest commendation.

Chart of the Arterial Venous and Nervous Systems.—Copyrighted and published by Dr Gustave H. Michel & Co., Cleveland.

This chart is intended to show as fully as possible in a single picture, the arterial, venous and nervous systems in the entire human figure.

The structures represented are arranged as correctly as the exigencies and difficulties of such an undertaking permit.

A few alterations in the relations and mode of division of certain nerves would add to the accuracy of the chart. Artistically the work has been very well done, and the whole presents a very attractive appearance.

A Text-book of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease—By Arthur R. Cushny, M. A., M. D., Aberd. Professor of Materia Medica and Therapeutics in the University of Michigan, etc. Third Edition, Revised and Enlarged. Illustrated with 52 engravings. Lea Brothers & Co., Philadelphia and New York. 1903.

The first edition of Dr Cushny's work on pharmacology, which appeared in 1899, was accorded at once a most favorable reception, and found its place almost immediately in the first rank of text-books upon this subject.

The time which has elapsed since the appearance of the second edition 18 months ago, is indeed short, and yet so numerous and so great have been the advances made in this science that a new edition of this invaluable work is urgently demanded, and most cordially welcomed. The arrangement and classification is essentially that of the earlier editions, and has much to commend it in practice. All the recent work of any value has been incorporated in this edition, which is considerably enlarged, and the bibliographic references to the literature are unusually complete, adding much to the value of the work as a means of reference.

The one criticism that we venture to offer is that the work, as a whole, is prepared rather more from the standpoint of the pharmacologist than from that of the therapist; and yet for this very reason it acquires a peculiar value of its own.

This text-book must, in our judgment, continue to maintain its unique position among all similar works, and will prove a very valuable addition to the library of every student and physician. As a source of thorough and exhaustive knowledge clearly and concisely presented, we know of no single volume which can be compared to this work. The press-work, typography and binding are excellent.

Philadelphia Academy of Surgery

The Samuel D. Gross prize, twelve hundred dollars, will be awarded on January 1st, 1905. The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding 150 printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page, it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 S. 13th St., Philadelphia," on or before January 1, 1905.

Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

JOHN B. ROBERTS, M. D.,
WILLIAM L. RODMAN, M. D.,
WILLIAM J. TAYLOR, M. D.,

Philadelphia, February 1, 1903.

Trustees.

American Medical Association Notes*

Next meeting in New Orleans, May 5, 6, 7 and 8, 1903. Isadore Dyer, chairman committee arrangements. General officers: President, Frank Billings, Illinois; first vicepresident, J. A. Witherspoon, Tennessee; second vicepresident, G. F. Comstock, New York; third vicepresident, C. R. Holmes, Ohio; fourth vicepresident, James H. Dunn, Minnesota; secretary-editor, George H. Simmons, Illinois; treasurer, Henry P. Newman, Illinois.

Excursions from New Orleans to Cuba and arrangements for a circular trip by way of Washington and New York are being discussed. The committee of arrangements are filing all applications and correspondence bearing on these points with an idea of submitting all feasible trips to the consideration of intending visitors to the New Orleans meeting.

The Southern Railway has announced a reduced rate of one fare for the round trip from Washington, or from any point on their system to New Orleans and return. Tickets will be on sale May 1 to 4, and will be good for continuous passage in each direction with a final limit of ten days from the date of sale. Tickets can be extended for a longer period, however, provided they are deposited in person, by the original purchaser, with the special

*Abstract from *N. O. Medical & Surgical Journal*, February, 1903

agent at New Orleans, not later than May 12, 1903, and fee of fifty cents is paid at the time of deposit, when the final limit will be extended to a date not later than May 30. Further information may be obtained from the chairman of the committee on transportation, Dr H. L. E. Johnson, Jefferson Place, Washington, D. C.

St. Charles Hotel rates—European plan: Room without bath, one person, from \$2 up; room without bath, two or more persons, from \$1.50 each, up; room with bath, one person, from \$3 up; room with bath, two persons, from \$5 up; each additional person \$2.50; alcove parlor and regular parlor suite, regular rates less 20%. American plan—Room and board without bath, one person, from \$4 up; room and board without bath, two or more persons, from \$3.50 up; room and board with bath, one person, from \$5 up; room and board with bath, two persons, from \$9 up; each additional person \$4.50; alcove parlor and regular parlor suites, regular rates less 20%.

Should there be no unoccupied rooms of the exact kind desired, the next best will be given to be changed when opportunity offers.

Mr Joseph Richardson, chairman of the Southeastern Traffic Association, has sent us Passenger Tariff Circular No. 1646, officially announcing rates for the New Orleans meeting of the American Medical Association:

Rates—One first-class fare for round trip (minimum rate 50 cents) from all points south of the Ohio and Potomac and east of the Mississippi rivers. Dates of sale, May 1, 2, 3 and 4, 1903. Tickets will be honored for continuous passage in each direction with final limit ten days from date of sale.

Extension of final limit—Provided the ticket is deposited in person by the original purchaser with special agent not later than May 12, 1903, and on payment of fee of 50 cents at time of deposit, final limit will be extended to a date not later than May 30, 1903. The above rate and arrangement are respectfully tendered to connecting lines for basing purpose.

The following railroads are in the Southeastern Traffic Association: Alabama Great Southern, Alabama & Vicksburg, Atlanta Coast Line; Atlanta, Knoxville & Northern; Atlantic & Birmingham; Baltimore & Ohio Southwestern; Blue Ridge R'y; Central of Georgia R'y; Charleston & Western Carolina; Cincinnati, New Orleans & Texas Pacific; Florida East Coast R'y; Frisco System (K. C. M. & B.); Georgia Railroad; Georgia Southern & Florida; Illinois Central; Jacksonville & Southwestern; Louisville

& Nashville; Macon & Birmingham; Macon, Dublin & Savannah; Mobile & Ohio; Nashville, Chattanooga & St. Louis; New Orleans & Northeastern; Norfolk & Western; Richmond, Fredericksburg & Potomac; Southern Railway; Tennessee Central; Tifton, Thomasville & Gulf; Washington Southern; Western & Atlantic; West Point Route (A. & W. P. Railroad & W. Railway of Alabama); Wrightsville & Tenneville; Yazoo & Mississippi Valley Railroad.

At a meeting of the committee of arrangements held in New Orleans January 26, 1903, the following tentative arrangement of sections was suggested: On medicine, Washington Artillery Hall; on surgery, Odd Fellows' Hall; on diseases of children, Odd Fellows' Hall; on obstetrics and gynecology, Odd Fellows' Hall; hygiene and sanitary science, Sunday School Room, First Presbyterian Church; nervous and mental diseases, First Presbyterian Church; pathology and physiology, Knights of Temperance Hall; cutaneous medicine and surgery, Y. M. C. A. Hall; stomatology, N. O. Dental College; materia medica, School Board Room Fiske Library; ophthalmology, College of Pharmacy; otology and laryngology, College of Pharmacy; general sessions, Tulane Theatre.

Bureaus of registration and information and post office, Washington Artillery Hall; general and scientific exhibits, Washington Artillery Hall.

Dr Simmons called attention to the New Orleans number of the *Journal* of the Association, which would be published four to six weeks before the meeting. This number to consist of 35,000 copies, and there would be eight, ten or twelve pages available for exploiting New Orleans and its resources. In this number would be found the program of the meeting; this number of the *Journal* would be sent gratis to any one to whom the committee would write a circular letter.

European Health and Pleasure Resorts

FROM OUR TRANSATLANTIC CORRESPONDENT

St. Gervais: Situated on the picturesque Bon-Nant gorge, only 13 miles from Chamonix and Mont-Blanc, St. Gervais attracts visitors more and more as it becomes known for its good climate and facile excursions as well as for its excellent mineral springs. The altitude of the Bath Establishment and Grand Hotel de le Savoie is about 2,000 feet above ocean level, the village of St. Gervais rising to 2,600 feet altitude. Thanks, however, to the current of air which descends from high glaciers into the Mont-

joie valley, St. Gervais, while fully sheltered from winds, enjoys a mountain atmosphere equal to that of far more elevated locations. In the afternoons especially, this downward current becoming warmer and more abundant may be compared to a river of the freshest and purest of mountain air, conveying to St. Gervais an atmosphere most dry, and most pure, and containing the perfumes of the pines and plants of the Alpine elevated regions.

The Mont-joie valley ceases abruptly at the St. Gervais plateau some 700 feet above the River Arve, the Bon-Nant torrent plunging down this distance on a series of fine cascades to the grand gorge in which are the Thermal Establishment and the hotels. The three Mineral Springs (called "Goutard," "May," and "Torrent") emerge at the foot of the lowest cascade from quartz rocks of the Mont-Blanc range. With slight differences of composition, these three Springs are much alike in character. Goutard has a temperature of 40°, May and Torrent have 38°. The combined output per diem is about 357,000 liters. Their waters are limpid, unctuous to the touch, rather styptic to the taste, and with a slight sulphuric odor in the Torrent Spring only. The mineralization is medium being about 4.85 grains per liter. Analysis of the waters show:

Chl. sodium	1.65
Sulphates soda, lime and magnesia together.....	3.00
Bicarbonate lime	0.60
Besmure sodium	0.031
Sulphate lithine	0.102

This relatively high proportion of lithine gives St. Gervais its prominent position among the lithia waters of Europe. The St. Gervais waters are so mild in action as to cause very few contraindications. In almost all arthritic cases they are beneficial, and then anticongestive effects are speedily manifested on the cutaneous membrane, the respiratory and digestive mucous membranes, on the liver, the kidneys, the articulations and the nervous systems. Summed up briefly at St. Gervais the medication is sedative and reconstituent, the diathesis especialization is antiarthritique, and the application is to cutaneous maladies.

The regular meeting of the Montgomery County Medical Society was held at Dayton on February 6. There was a large representation of the membership present and much interest was created by the very excellent paper that was read by T. D. Gilbert on the subject of "The Growing Importance of Preventive Medicine with Its Application to the Physician and Its Influences in Modern Therapy."

Medical News

J. Eakins, of Patriot, will locate in Portsmouth.

Thomas B. Savage, of Wellington, will locate in Xenia.

Dr Wm. E. Bruner returns from Colorado Springs April 2.

W. Wilcox, of Wilkersville, will in all probability locate in Vinton.

N. B. Sisson, aged 82 years, of Porter, was reported very ill on January 28.

W. B. Loney, of West Union, has completed a post-graduate course in Chicago.

Geneva Frey, who has been practicing in Broadwell for about two years, will remove to Mineral.

Charles D. Williams, of Cleveland, and Miss Anna Martin, of Lisbon, were married January 28.

L. W. Faulkner, of St. Paris, has announced himself as a Democratic candidate for representative.

S. D. Good, of Wellington, will locate in Madison where he has purchased the practice of Dr Quayle.

J. A. Lockard, who has been spending some months in the Adirondacks, will resume practice in Mansfield.

The Washington County physicians have had a meeting and have taken preliminary steps toward organizing a society.

James L. Cannon, until recently of New Martinsburg, has purchased the practice of Roderick Wittich, of Mount Sterling.

The Athens County physicians have taken up the organization idea, and will be in shape to send a delegate to the Ohio State meeting.

The Perry County Medical Society, one of the best in the State, will reorganize in line with the onward movement at its next meeting.

At a very full regular meeting of the Defiance County Medical Society held in Defiance, February 11, this society adopted the constitution proposed by the committee of the American Medical Association.

The regular meeting of the Ashtabula County Medical Society was held on January 7. The papers of the evening were delivered by C. J. Aldrich, of Cleveland, and J. A. Dickson, of Ashtabula. Both papers were freely discussed and appreciated by all.

The Guernsey County Medical Society has reorganized in line with the State Association, with the following officers: President, W. T. Ramsey; Vicepresident, F. M. Mitchell; Secretary, F. W. Lane; Treasurer, H. H. Price; Delegate, W. N. Bradford, all of Cambridge.

The Green County Medical Society met January 8 at Xenia. J. W. Taylor, of Cincinnati, read a paper on "X-ray in Therapeutics." Dr Curtis, of Dayton, followed with a paper on "Skyography," describing the proper photographing of the injuries shown by the X-ray.

The Putnam County Medical Society held a meeting January 9, at Green Castle, Ind. The following officers were elected: President, Dr Hope, of Coatesville; Vicepresident, C. T. Zaring; Secretary, Dr King; Treasurer, Dr Hanna; C. F. Hood, of Indianapolis, lectured on "Diseases of the Eyes."

A joint meeting of the Miami and Shelby County Medical Societies was held at Sidney on January 8. The meeting was called to order at 11 a. m., and the following program was rendered: "Whither Are We Drifting?" by Van S. Deaton, of Alcony; dinner at 1 p. m.; at 2:15 p. m. T. C. Cable, of Pemberton, read a paper on "Pensioners and Pension Boards."

The Licking County physicians met at Newark, February 12, and organized the Licking County Medical Society, electing Dr Anderson T. Speer, Newark, president; Dr Charles A. Foster, Newark, vicepresident; Dr George W. Garrison, Utica, treasurer; Dr H. Burner Anderson, Newark, secretary, and Drs B. H. Barnes, William H. Krauss and Cary F. Legge, all of Newark, censors. A committee on constitution and by-laws was also appointed.

The Wood County Medical Association held a meeting January 8 at Bowling Green. This was the largest meeting ever held by the Society. M. A. McKendrer was appointed Chairman of the Board of Censors to fill the vacancy caused by the death of Dr Mathers. The papers read before the Society were: "Organization of the Medical Profession," by J. H. Jacobson, of Toledo; "Surgical Diseases of the Kidney," by Dr Harpster, of Toledo, and "Gangrene," by J. C. Snyder, of Bowling Green.

Deaths

C. L. Floor, of Youngstown, aged 44 years, died January 30.

A. O. Locus, of New Washington, aged 37 years, died February 3.

The Cleveland Medical Journal

VOL II

MAY, 1903

No 5

Pregnancy and Labor Following Nephrectomy

BY J. F. BALDWIN, M. D., COLUMBUS

Surgeon to Grant Hospital; Fellow of the American Association of Obstetricians and Gynecologists, etc.

Nephrectomy is such a frequent operation that one would naturally expect to find plenty of cases recorded in which pregnancy and labor have followed this operation. Bovee, of Washington (*American Gynecology*, November, 1902), has, however, been able to find but two cases reported, a case of his own, which he adds, making three altogether.

The effect of pregnancy upon the kidney functions is so well understood that it is unnecessary to take time for its discussion. When the work of two kidneys is being done by one, the inference would be that a patient with one kidney would be more apt to suffer from the effects of pregnancy than under the usual conditions.

The cases recorded by Bovee may be briefly condensed as follows:

Case I: A nephrectomy in 1883 by König, for tuberculosis in a patient aged 18 years, was reported by Steinheil. In 1895 she returned, being then two months pregnant, with a large amount of pus and some blood in the urine. The patient was safely delivered at full term, the pregnancy having practically produced no effect upon the condition of the kidney. She died of tuberculosis of the other kidney in the winter of 1897, more than one year and nine months after her delivery.

Case II: Schramm reported a case in which a kidney was removed for hydronephrosis, on April 1, 1891, the patient being 25 years of age. She returned four years later, being then five months pregnant. The urine was abundant, with a slight amount

of pus. She was delivered July 31, 1895, after a normal labor. Convalescence was normal.

Case III: A nephrectomy performed on March 18, 1901, for pyonephrosis was reported by Bovee. The patient was delivered April 15, 1902, after a normal labor. Nothing of importance occurred during her convalescence, but albumin was present in the urine, and continued to be present at the time of the report.

Owing to the rarity of these occurrences, and the anxiety which naturally attaches to each case of pregnancy following nephrectomy, it seems wise to put the following two cases on record:

Case I: Miss L. G., was referred to me by Dr Jesse McClain, of Coshocton, August 13, 1898. She was at that time 26 years of age. For four years she had had pain in the right side. At first the pain had not been constant, but of late it had been more severe and almost continuous. Her father had died four years before of consumption, a brother had died one year before of the same disease, and she herself had lost at least 25 pounds in weight during the last three years. The right kidney could be felt greatly enlarged, and was quite tender. She was secreting about the normal amount of urine, and the urine itself showed no particular evidence of disease. Micturition was unduly frequent. Repeated examinations of the urine threw no additional light upon the case. A nephrectomy was performed September 27, 1898. On being exposed, the kidney was found highly hydronephrotic. The ureter was apparently reduced to a mere fibrous cord. There was fluid in what was identified as the pelvis of the kidney, but this could not be pressed through the canal. The kidney was accordingly removed in the usual way. Examination showed almost complete destruction of the kidney from hydronephrosis. There was no evidence whatever of tubercular disease. Convalescence was rapid and complete. The patient afterward married, and was safely delivered after a normal pregnancy, August 14, 1901. Her physician reports to me that there was no complication whatever during either her pregnancy or confinement. She died of typhoid fever May 20, 1902.

Case II: Mrs F. H. McD. was referred to me by Dr E. C. Carr, of Coshocton, March 4, 1900. She was 37 years of age, had been married 14 years, and had had two children, the youngest nine years before. She had had one miscarriage at three months about five years before; this was followed by no trouble. Her labors had both been hard, the last one being followed by some form of fever, which confined her to bed for six weeks. This trouble seemed to have affected solely the right kidney, resulting in a pyelitis. Since that time she had had periodic attacks of enlargement of this kidney which would form a distinct tumor. Of late this tumor had become so large at these times as to extend over to the left of the median line. These attacks would be accompanied

by chills, fever and vomiting; this would last about a week, when there would be complete relief following a free discharge of pus from the bladder. The patient lost flesh rapidly during these attacks, but regained it as soon as they were over. In the intervals she felt entirely well. By the use of the Harris separator it was found that the left kidney was secreting all the urine that was passed, and that it was doing its work well. Pus only was found coming from the right ureter. An operation was performed March 8, 1900. The incision was made through the right *linea semi-lunaris* in order to permit careful examination of the left kidney. This was found normal to palpation. The appendix was found unusually long, thickened, and imbedded in adhesions. It was stripped and inverted. The right kidney was found reduced to a mere sack, and was removed as usual, catgut being used for ligatures. The ureter was cut off at some distance below the kidney and its end inverted and caught with a single catgut thread, so as to prevent any infection. The incision was closed in the usual way. Convalescence was entirely uninterrupted. The patient, who had been sterile for five years, became pregnant soon after her return home, and was safely delivered September 16, 1901. Her condition was a subject of frequent discussion by Dr Carr and myself, but repeated examinations of her urine during her pregnancy failed to show anything wrong with it. Under date of December 12, 1902, her physician reports her health as excellent in every way.

These two cases, together with the three contained in Dr Bovee's report, while numerically insufficient to form much of a basis for generalization, would seem to indicate, as far as they go, that the prognosis of pregnancy following nephrectomy is by no means unfavorable.

On the Relation of Age, Sex and Conjugal Condition to Death from Typhoid Fever

BASED UPON A STUDY OF THE DEATH REPORTS OF THE CITY OF CLEVELAND FOR
13 YEARS FROM 1890 TO 1902 INCLUSIVE*

BY GEORGE WILTON MOOREHOUSE, M. D., CLEVELAND

Visiting Physician to the Dispensary of Lakeside Hospital

The following study of typhoid fever was undertaken on exactly the lines employed in my study of the relation of age, sex and conjugal condition to death from tuberculosis¹.

My failure to find any unequivocal statistic verification of the clinical observation that marriage, at least in females, has an unfavorable effect upon persons suffering from or predisposed to tuberculosis made me anxious to undertake a parallel research upon

*Read by title before The Academy of Medicine of Cleveland, February 20, 1903

(1) Cleveland Medical Journal, February, 1903.

another disease in order that the results of the second investigation might be compared with those obtained in the first. To serve properly for purposes of comparison the disease selected should be an acute one, not too difficult of diagnosis, and occurring most frequently at about the age at which tuberculosis is most common. Typhoid fever seemed to be the most suitable disease for this purpose.

Each death reported, for the 13 years from 1890 to 1902 inclusive, was inspected, and the data required in the present study was tabulated for each case in which the cause of death was said to be typhoid fever, enteric fever, typhus abdominalis, typhomalarial fever, typhoid pneumonia, and pneumotyphoid. These diagnoses I consider synonymous. That the first three are generally so considered there can, I think, be no question. The Bertillon system of the classification of the causes of death, at present so widely used, and recently adopted at the Cleveland Health Department, characterizes both typhomalaria and typhoid pneumonia, as indefinite and unsatisfactory as a cause of death. It enumerates the former as typhoid and the latter as pneumonia. I am strongly inclined to the opinion, however, that in the majority of cases, typhoid is the correct diagnosis in both cases, and am lead to take this ground by a knowledge that many persons who claim to have had typhoid pneumonia can, after investigation, be shown to have had typhoid fever. If errors have been introduced by the use of these diagnoses as synonyms of typhoid fever they are, I think, less than .1% of the total deaths included, and must be more than offset by the cases of typhoid fever concealed under such diagnosis as malaria, hemorrhage of the bowel, perforation of the bowel, etc., etc., but not included in our results.

Table I gives a general summary of the results for each year: the number of deaths by year, the estimated population by year, the mortality by year—from my study of the individual death reports—and, in addition, the number of deaths by year given by the Health Department in its annual reports, the difference in the number of typhoid deaths in each year as reported by the city and the number found by myself, the percent of the city's total represented by this difference, and, finally, the city's mortality when based upon the number of deaths from typhoid fever reported by the Department. One or two items that suggest errors either in my own count or in that of the Health Office may be mentioned in this place. The difference in the number of cases found by myself and the number reported by the Health Office is the first.

TABLE I
DEATHS FROM TYPHOID FEVER BY YEAR

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	Total
Male.....	118	110	123	102	67	94	110	58	87	77	120	87	80	95 (1) 1,235
Female.....	97	87	83	89	46	53	66	43	53	53	106	59	55	68.46 (1) 890
Total.....	215	197	206	191	113	147	176	101	140	130	226	146	135	163.46 (1) 2,125
Estimated population	(2) 261,353	272,750	284,750	298,000	310,000	321,000	333,333	345,000	357,333	369,333	(2) 381,768	394,333	407,000	333,535 (1) 4,355,953
Male	(2) 132,517	138,100	143,700	150,700	156,800	162,426	168,666	174,570	180,810	186,882	(2) 196,616	199,542	205,942	169,021 (1) 2,197,271
Female.....	(2) 128,836	134,650	141,050	147,300	153,200	158,574	164,667	170,430	176,523	182,451	(2) 189,152	194,791	201,058	164,514 (1) 2,138,682
Mortality, Male.....	99	80	86	68	43	59	65	33	48	41	61	44	39	56
Female.....	75	65	59	61	31	34	41	25	31	29	56	31	27	42
Total	82	72	72	64	37	46	53	29	39	35	59	37	33	49
Reported by Health Office.....	182	155	167	153	89	117	142	73	121	119	205	140	133	138.2 (1) 1,796
Difference in Number Reported	33	42	39	38	24	30	34	28	19	11	20	6	2	.....
Percent of City's Total represented by this difference.....	18.1	27.1	23.4	24.9	27.0	25.7	24.0	38.4	15.7	9.3	9.8	4.3	1.6	.....
Mortality based on City's Total.....	70	57	59	51	29	37	43	21	34	32	54	36	33	41.4

(1) Average. (2) Census.

This difference might be accounted for in several ways. Either there are included in this paper a number of cases in which the death was said to be due to causes other than the synonyms given above, or the Health Office did not use all the synonyms here given, or considerable numbers of deaths were rejected from the city's lists as deaths of nonresidents. As to the first suggestion I do not think it possible that I included in my count any deaths not assigned to one of the causes given above, and do not realize how such a mistake could easily be made. As to the second possibility, it is easy to conceive that errors in classification may have occurred at the Health Office when we consider that this has been in the hands not of a physician but of a sanitary patrolman. With the exception of a two-year's interval, this work has been done for eight or nine years by one man, and he thinks, with some reservation in regard to typhoid pneumonia, that his synonyms have been the same as those employed in this study. As to the third suggestion, when we consider the anxiety shown by all cities to reduce their reported mortality a reasonable difference between the Health Office reports and this count is not surprising even though it could be shown that the same synonyms had been used, and this difference might be consistently explained by the rejection by the city of a number of deaths, as those of nonresidents. It is hard to see, however, if this is the true explanation, why the difference, so great in the early years covered by this study as to amount to a maximum of 38.4% of the total number reported by the Health Office, should have diminished so strikingly in the later years. While I am not able to admit the reasonableness of a charge of including more deaths than those assigned to my six synonyms I can see that it might be possible that after having gone over about 50,000 death reports and, presumably, working under high pressure, I might, in the later years of this study, overlook a certain number of cases. I did not think any serious errors from this cause had crept in, but considered that it was absolutely necessary to exclude this explanation if the results were to have any credit on the ground of accuracy. I therefore determined to collect the data anew for the last five years and to use the new material in the construction of new tables and curves, the study having been completed with the exception of the text of the article when this discrepancy was discovered. After the data for three of the five years had been recollected (1898, 1899 and 1901) the resulting number of deaths was found to be the same in both tabulations, and, therefore, I consider this a reasonably correct count of the deaths from typhoid fever in the city of Cleveland for 13 years from 1890 to

1902 inclusive, retaining of course the deaths of nonresidents which are omitted in the official reports of the mortality of the city.

The next item to attract attention in a critical study of this table is the great variation in the mortality from year to year. By subtracting from the mortality of each year the total mortality we get results ⁽¹⁾ (either plus or minus) showing the variation of the mortality by year. The average of these is 30.6% of the total mortality. The corresponding average variation in the yearly mortality by sex is 29.4% of the total male mortality and 35.3%

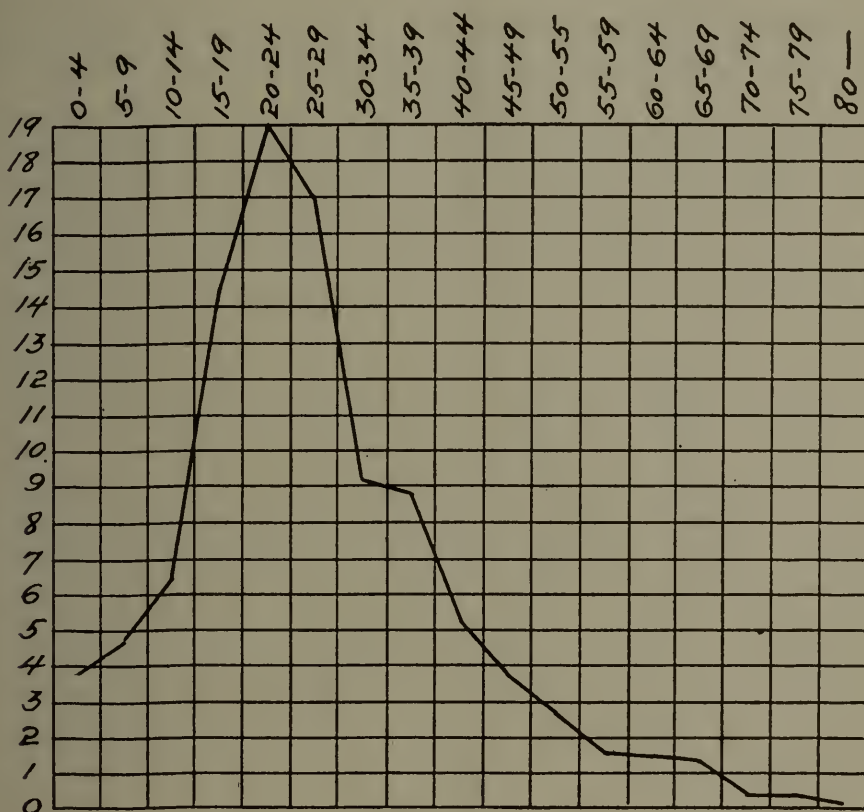


Fig. 1.

Percentage of deaths from typhoid fever by age

of the total female mortality. In spite of what we considered a purely accidental diminution in the mortality of females in the later years of the previous study of tuberculosis the average variation of their yearly mortality is only 14% of the total female mortality, while the corresponding figure for males is but 1.3%. In other words the variation of the male mortality from typhoid by year from the total male mortality is more than 20 times the corresponding variation of the male mortality in tuberculosis. This may be thought to indicate much greater variation in inci-

(1) Not given in the table.

dence and virulence of the infection in typhoid fever from year to year than is found in tuberculosis.

During the years under consideration the Health Department reports the deaths of 70,114 individuals from all causes (excluding deaths of nonresidents and still-births) in the city of Cleveland. In my investigation of the individual death-reports of these years I found data concerning 2,125 individuals, including nonresidents, with a cause of death which I thought proper to consider synonymous with typhoid. This number is 3% of the above total. The 1,796 deaths assigned by the department to the same cause, which is less than my figures by at least the number of nonresidents dying in the city is 2.5% of the total deaths.

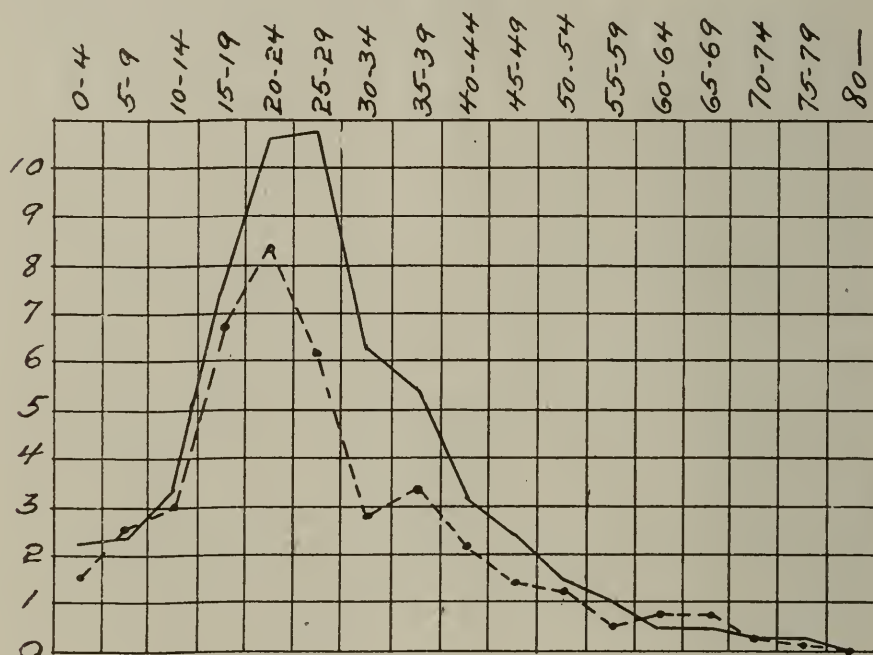


Fig. 2.

Male percentage of deaths from typhoid fever by age and sex———
 Female percentage of deaths from typhoid fever by age and sex.....

More males than females died of typhoid fever, both actually and relatively, in numbers 1,235 males and 890 females. While only 50.6% of the population of Cleveland are males, 58.1% of the deaths due to typhoid fever are male deaths, as compared with 56.6% from tuberculosis. The average male and female mortality in these years was 56 and 42 deaths per 100,000 respectively.

As regards deaths by age from typhoid fever we will first consider the percentage of such deaths in five-year periods to the total number of typhoid deaths. This is shown in the curve in Figure 1. It will be noted that the number of deaths from typhoid fever in the earliest years is small, and increases gradually to a maximum in the five-year period between 20 and 25 years. One-

half of all the deaths from tuberculosis occurred in $20\frac{1}{2}$ years from the age of $23\frac{1}{2}$ to 44 years, while one-half of all the deaths from typhoid occurred in 17 years from 18.5 to 35.5 years. Other published curves agree with this in showing that the greatest number of deaths from typhoid fever is found in the period 20-25 years, but the curves in general vary from those here given in showing a greater number of deaths from 15 to 20 than from 25 to 30.

Figure 2 bears two curves showing the deaths by age and sex in five-year periods. They show that the deaths of males and females are practically the same in number from birth to the twentieth year, and again beyond the age of 40 years. One-half of all male deaths are included in 16 years, beginning with the age 19.5 years, one-half of the female deaths are included within a period of 17.9 years beginning at the age of 17.4.

The four curves following are mortality curves, giving the number of deaths by age to each 100,000 of the estimated population by age.

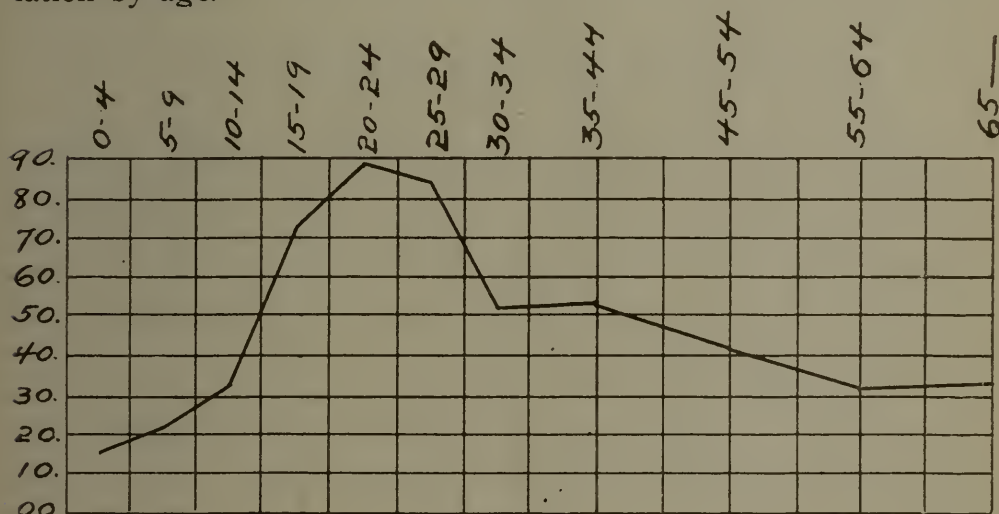


Fig. 3*

Mortality from typhoid fever by age

Figure 3 shows the mortality for the entire population, while Figure 4 gives it for males and females. The curve of Figure 3 shows that the mortality from typhoid fever by age increases steadily and rapidly from the earliest five-year period of life to early adult life with a maximum at the age 20 to 25. The mortality at 25 to 30 is but little less than that in the five years preceding, the mortality at 15 to 20 is distinctly more than at any other five-year period with the exception of the two already mentioned.

*On account of the difference in the construction of figures 1 and 3 it may be well to say in passing that the relation between the percentage of deaths at the age 20-24 and at the ages 10-14, 15-19, 25-29 and 30-34 is practically the same as the relation between the mortality at 20-24 and the corresponding ages.

This curve of typhoid mortality differs from that of tuberculosis in the marked decline of mortality at the beginning of the middle period of life, and in the absence of a considerable mortality in early childhood.

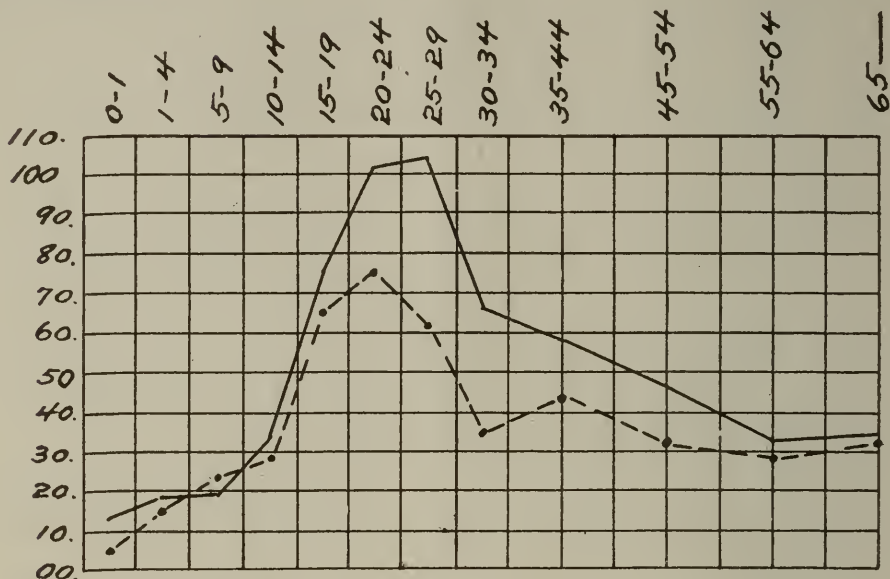


Fig. 4.

Male mortality from typhoid fever by age and sex———
 Female mortality from typhoid fever by age and sex.....

The curves of mortality for males and for females in Figure 4 present a consistent similarity to the curve of the total population in Figure 3 and to each other which was not found in the corresponding curves of our study of tuberculosis. At the extremes of life the mortality in the two sexes is practically identical. Beginning, however, at the five-year period 15 to 19 there is an increasing excess in the mortality of males to the thirtieth year at least. At this time or a little later the difference begins to diminish and is practically zero in advanced life. The average mortality of males from tuberculosis was 146 per 100,000, for females 115, or a difference of 31 deaths per 100,000 in the two sexes. The mortality of females in the first four years of the seven covered in the study of tuberculosis was 130, and, for reasons explained in the previous article, this is probably more nearly the true female mortality than is 115; the male mortality is 16 per 100,000 in excess of the corrected female mortality. From Table I of this study we find that the male mortality is 56 per 100,000, the female 42, a difference of 14 in the mortality of males and females. This is practically the same as the corrected difference between the sexes in mortality from tuberculosis. We see therefore that the two diseases resemble each other in attacking males, or at least in being more frequently fatal to males than to

females. In either disease it is, I think, entirely unnecessary to imagine any special predisposition on the part of the male, and the conclusion that the male in his more out-of-door life suffers more severely than the female both from tuberculosis and typhoid fever may point in the first case to the importance of the dust of the street in the dissemination of the one and in the second the exposure to a more greatly infected water-supply. This conclusion is possibly borne out by the fact that in both diseases the single in each sex has a higher mortality than the married, since it is presumable that the exposure of the unmarried of each sex is greater than that of the married.

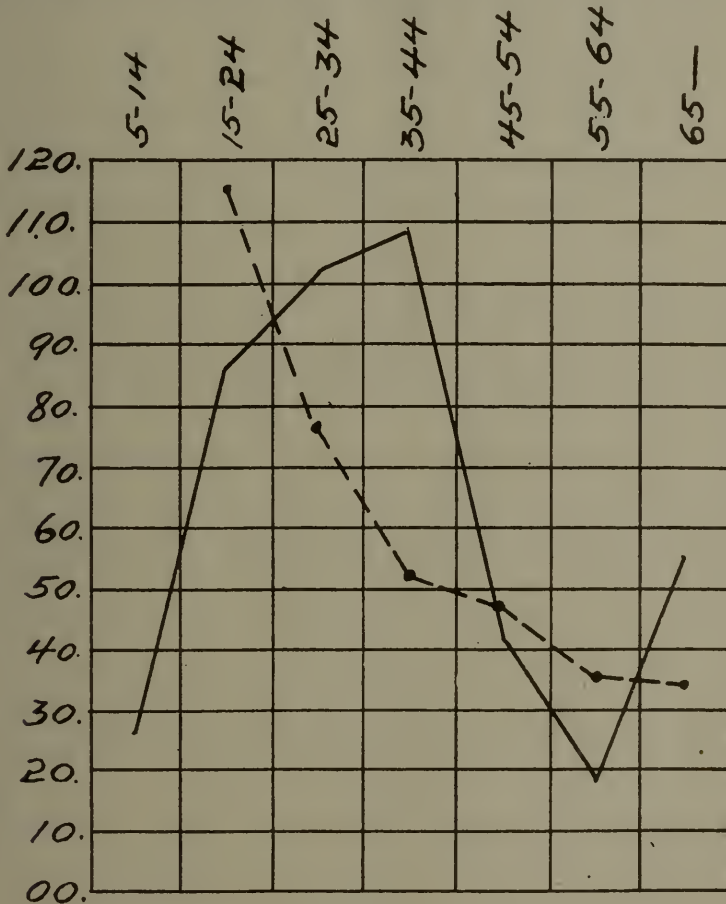


Fig. 5.

Male mortality by age and conjugal condition
 Single——— Married.....

Figure 5 has two curves showing, in ten-year periods, the male mortality by age and conjugal condition. Figure 6 shows the same facts for females. It was particularly for a comparison of the relation between the conjugal condition and death in an acute disease and in a chronic disease that this study was undertaken. The present investigation furnishes material for a study of this relation in an acute disease, the former in a chronic disease.

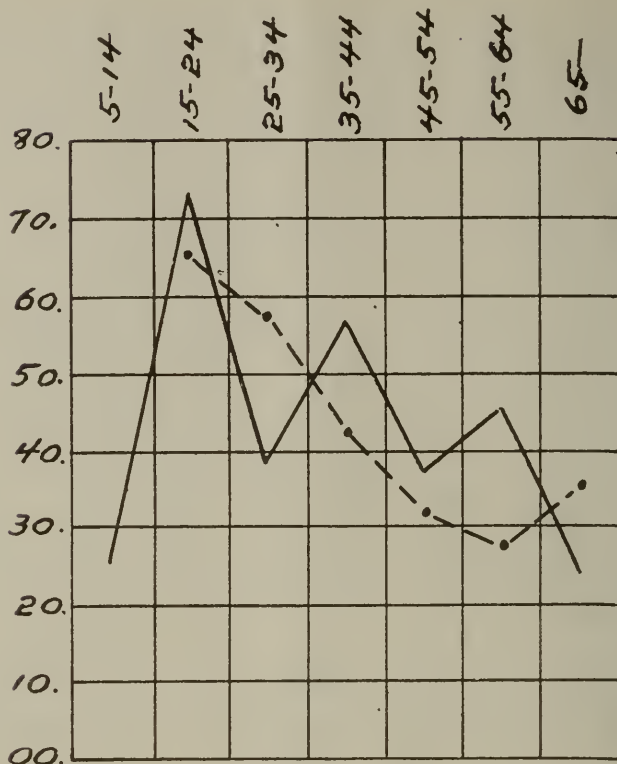


Fig. 6.

Female mortality by age and conjugal condition
 Single——— Married.....

On account of irregularities in the curves of both figures it is difficult to determine whether the mortality is in any way influenced by the conjugal condition, although there is some reason for saying that in males a slight excess in the mortality of the single is found while in females the irregularities in mortality are so well balanced as to be due in all probability to chance alone. A mutual comparison of the relation of the mortality of the married and the unmarried in males without reference to age with that in females may be of assistance as a check on the observation just made on the curves in these figures. The mortality of single males is 53.75 per 100,000, of married males 59.29; of single females 38.45, of married females 43.6.⁽¹⁾ The mortality of married males per 100,000 of that class in our population is 5.54 greater than that of unmarried males, while the mortality of married females is 4.85 greater than that of the unmarried. In other words, the excess in the mortality of married males is practically 10% of the total male mortality (see Table I), and the excess in the mortality of married females is practically 10% of their total mortality. This

(1) On account of the fact that children, who have a very small mortality from typhoid fever and tuberculosis, constitute a large proportion of the unmarried population the mortality of the unmarried without regard to age will be much less than that of the married.

determination may perhaps be accepted as showing that single males as compared with the married do not suffer more severely from typhoid than do single females as compared with married females. The corresponding computations in tuberculosis, not included in the previous study, show an excess in the mortality of married males of 57.53, and of females 44.13. These figures are 39.4% and 38.4% respectively of the total mortality from tuberculosis of males and females. In the previous study a great excess in the mortality of single individuals both for males and females, was found in the middle period of life but the excess was considered to be proportionately greater in males than in females, and a tentative conclusion was reached that marriage might have some unfavorable effect on the female and so decrease the excess of mortality among the single in that sex. The results of the computation just given appear to warrant us in concluding that married females suffer no more severely than married males from a tuberculous infection.

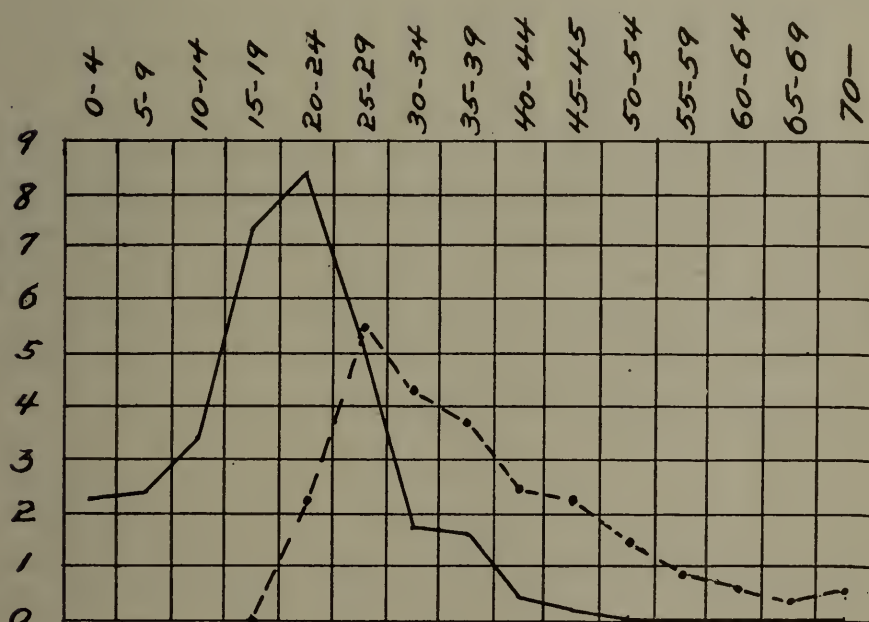


Fig. 7.

Percentage of male deaths by age and conjugal condition
Single—— Married.....

Figures 7 and 8 give the percentages of male and female deaths from typhoid fever by age and conjugal condition. They contain simple curves and need not be dwelt upon in this place.

Table II gives the 25%, 50% and 75% limits of the curves based upon percentages of total deaths for both typhoid fever and tuberculosis. These limits indicate, in the first, that one-fourth

of all deaths occur at ages younger than the one mentioned, while three-fourths occur later in life ; in the second, that equal numbers die below and above the age mentioned; in the third, that three-fourths of all deaths occur below and one-fourth above the age

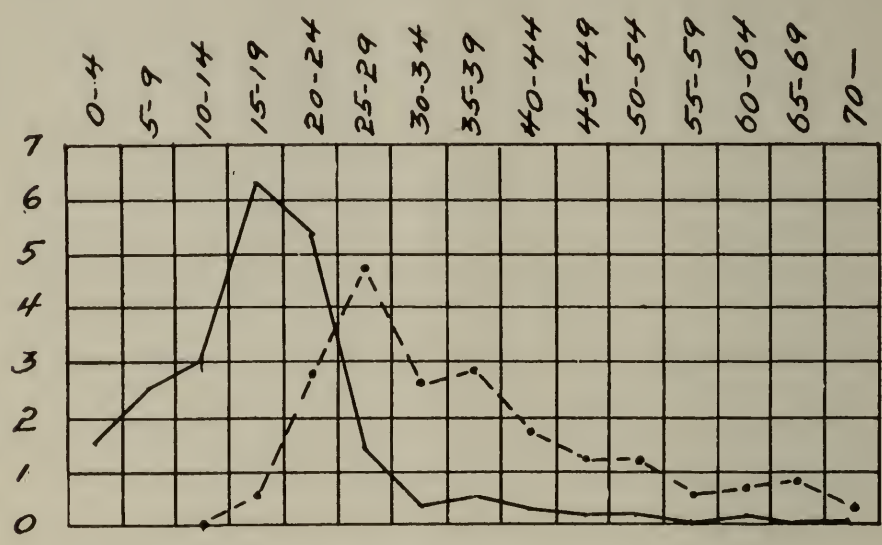


Fig. 8.
Percentage of female deaths by age and conjugal condition
Single—— Married.....

given. Each of these limits is found in typhoid fever at an age earlier than the corresponding limits in tuberculosis, and the difference between the 75% and the 25% limit is less in typhoid than in tuberculosis, indicating that one-half of all deaths from the former disease occur in a shorter period of life than in the latter. The more symmetrically steep character of the curves shown throughout this study points of course to the same conclusion.

TABLE II

	TUBERCULOSIS				TYPHOID FEVER			
	25% of all deaths occur before	50% of all deaths occur before	75% of all deaths occur before	One-half of all deaths occur in	25% of all deaths occur before	50% of all deaths occur before	75% of all deaths occur before	One-half of all deaths occur in
	years	years	years	years	years	years	years	years
Total	23.5	31.9	44.0	20.5	18.5	25.5	35.4	16.9
Male.....	24.8	34.2	45.9	21.1	19.5	26.4	35.5	16.0
Female.....	21.8	29.3	40.4	18.6	17.4	24.2	35.3	17.9
Male, Single.....	19.0	25.0	32.4	13.4	15.2	20.7	25.9	10.7
Male, Married.....	34.1	42.8	53.4	19.3	28.6	35.4	45.4	16.8
Female, Single	16.3	21.3	26.9	10.6	11.9	17.8	22.5	10.6
Female, Married.....	27.8	35.0	45.6	17.8	26.7	33.7	44.2	17.5

CONCLUSIONS

1. Typhoid fever in Cleveland furnished, during the 13 years under consideration, 3% of the total deaths (excluding deaths of nonresidents and still-births). The number of deaths reported by the Health Department in the same period was 2.5% of the same total. The mortality was 56 to each 100,000 of the average estimated population.

2. Nineteen percent of all tuberculous deaths occur between the years 20 and 25, 36% between 20 and 30, and 50% between 18.5 and 35.4 years.

3. One and eight-tenths percent of all deaths were male deaths from typhoid fever. Fifty-eight and one-tenth percent of all deaths from typhoid fever were male deaths.

4. One and two-tenths percent of all deaths were female deaths from typhoid fever. Forty-one and nine-tenths of all deaths from typhoid fever were female deaths.

5. In proportion to the total, the greatest number of deaths both for males and females is found in the five-year period between the ages of 20 and 25 years.

6. In proportion to the living population by age the greatest number of deaths occurs between 20 and 25 years. In this respect the mortality of typhoid fever differs essentially from that of tuberculosis in which the highest mortality is found well past middle life.

7. The conclusions given in the previous paper on the relation between the conjugal condition and the married state were that tuberculosis delayed and prevented marriage and that we might infer that marriage in women increases the liability to death from tuberculosis. A further computation with the material of the other study made in the course of the present investigation will, it seems to me, warrant us in withdrawing the second of these conclusions. We have shown that the excess of deaths of the married in tuberculosis are practically the same for males and females, namely about 39% of the total mortality of each sex, and that the same relation holds in typhoid fever, but with a much lessened excess of deaths in the married, this excess for each sex being about 10% of the corresponding total mortality. The fact that the percentage excess of married over single mortality in tuberculosis is four times that found in typhoid fever tends to strengthen our conclusion that tuberculosis frequently delays and prevents marriages.

On the basis of this study there is, presumably, no relation

between the conjugal condition and death from typhoid fever unless it be a moderate increase in liability to infection on the part of the unmarried, and this, if it exists, is thought to bear equally on the two sexes.

842 Logan Avenue

Normal Saline Solutions Before, During, and After Abdominal Operations

BY WILLIAM H. HUMISTON, M. D., CLEVELAND

Associate Professor of Gynecology in the Medical Department of Western Reserve University; Gynecologist in Chief, St. Vincent's Hospital; Consulting Gynecologist to the City Hospital, etc.

In 1895 (*American Journal of Obstetrics*) I first published my method of allaying thirst following celiotomy, and again in 1898, in the same periodical, I gave the results of the observance of 24 cases in which this method had been used upon the excretion of the kidneys, showing an average of 31½ ounces of urine and 90% of the normal quantity of total solids passed during the first 24 hours succeeding celiotomy.

This satisfactory condition was obtained only in those cases in which a sufficient time for preparation could be had prior to operation, and left those usually more grave and disastrous emergency cases without this material aid. Usually at that time recourse to intravenous transfusion or subcutaneous injection was postponed until complications with heart or kidneys had already arisen.

It was not until June of 1897, in a case hereinafter to be detailed, that I used the peritoneal cavity as the inlet to large quantities of salt solution. During the remainder of the year I used, in a cautious way, this procedure in a few hopelessly desperate cases with such satisfactory results that I soon adopted it as a routine.

The technic is simple. After partially closing the wound not less than two quarts of normal saline solution at a temperature of 112°F. are poured into the cavity through a glass funnel, and the few remaining sutures, previously introduced, are quickly tied. Within a few minutes the anesthetizer notes a marked change in the character of the pulse, its rate diminishing, its tension lessening and its fulness increasing. The color of the face approaches more nearly the normal, and usually the patients have little or no thirst for the first 18 hours, have less pain and require no enemata

of any kind, and are thus kept absolutely at rest and free from the annoyance of too much nursing. In vaginal celiotomies, when this method cannot be employed, the saline solution is administered subcutaneously. The trocar, entering at the junction of the anterior axillary border at a line on a level with the upper border of the right breast, is plunged downward, backward and inward so that the fluid finds the loose tissue in the axilla and flows backward underneath the scapula rather than under the breast.

In this position, with very little massage, three or four quarts can readily be injected with four feet of pressure. In emergency work outside of hospitals where assistance is limited and sterile salt solution is not to be had, I have used a hastily prepared nonsterile salt solution during an operation by allowing the sigmoid and colon to be slowly filled with the fluid.

This is easily accomplished when the patient is in the Trendelenburg posture, and the peritoneal cavity is opened to permit the ready guidance of the tube above the pelvic brim.

Large quantities of the fluid may be used in this way without hindrance in the field of operation, and the rapidity of absorption can only be appreciated by actual observation.

Another use which I have lately made of the salt solution has certain theoretic and proven practical grounds for its adoption.

For a number of years I have not flushed the cavity nor used a drain. I do however occasionally employ the Mikulicz tampon to control general oozing; and in this latter class I have found that the filling of the peritoneal cavity, after the tampon has been put in place, tends toward the dissolution of clots and the carrying off of effete material within the pelvis through the capillarity of the tampon.

I have never had a bad result which could be attributed to this use of the saline solution. There are no certain indications to its use, but on the other hand, I am sure that many a case of sepsis, of septic nephritis and of low cardiac vitality has been saved by its employment.

Case I: June 18, 1897. Mrs P., aged 50 years, had a tremendously large ovarian cyst which had become adherent to almost all the structures within the abdominal cavity, except the spleen, the left kidney and the anterior abdominal wall, the latter escaping through the intervention of the omentum.

The cyst was a large monolocular one containing the products of suppuration familiarly known as "pea soup." After the contents had been carefully and slowly withdrawn and the cyst-wall freed and removed, the patient suddenly collapsed.

During the flushing of the peritoneal cavity the patient recovered slightly, and it suggested to me the thought of leaving some of the fluid to replace the weight which I had removed. Four quarts were used.

She was placed in bed in an almost moribund condition but in a very few minutes the radial pulse was again felt.

Within an hour the rate could be readily made at 160, and it gradually dropped to 90 within the first 24 hours, and the patient made a rapid and uninterrupted recovery.

Case II: Mrs L. J., aged 34 years, had been married 16 years, and had given birth to two children, the youngest being eight years old. She had had two miscarriages prior to the birth of the last child. Her early menstrual history showed no divergence from the normal. In later years she had been troubled with dysmenorrhea and pain in the ovarian region, but her general condition had been excellent.

The last menstrual period began on January 18, 1901, and continued throughout the usual length of time, without any deviation from the course of previous epochs. There was no appearance of the menses either in February or March, but a week after the expected period of the latter month the patient "took something."

For 10 days there was a bloody discharge, but on March 28 the patient had severe pain in the left groin and was faint and nauseated. At this time a probable diagnosis of gall-stones was made, but a second physician decided that a pregnant uterus was misplaced to the left and an abortion was threatened. On April 4, a second and more severe attack occurred, followed by collapse. The patient was then kept in bed till May 12.

Two distinct attacks occurred during this period of forced quiet. Pain, nausea, and vomiting with tympanites were the chief symptoms. During one of these attacks one-half grain of morphin was administered before there was any relief.

The bedside record shows with each attack a rise in pulse-rate from 80 to 100 and 120, followed in about 12 hours with a rise of temperature from the normal to 100° or 101.5°, with a rapid declination of the pulse-rate and temperature to the normal.

The nurse was discharged on May 12, and the patient rapidly improved in general condition. The bloody discharge from the vagina which had occurred almost continually through the month of April had ceased.

During the first week of July she came from her home to Cleveland to recuperate. On July 9 at 10 a. m. the fifth distinct attack of pain occurred. At this time the patient sank into collapse. The history and clinical picture made the diagnosis of extrauterine pregnancy with internal hemorrhage positive.

Dr F. S. Clark who first saw the case called me to operate. I found the patient in an extremely low condition, with sighing respiration, blanched skin, cold extremities, and a small feeble pulse whose rate was scarcely distinguishable at 170 to 188, and a

temperature of 95°. Arrangements for an operation were quickly made.

Under anesthesia the diagnosis was confirmed, the body of the uterus being easily distinguished from the large tumor mass, and in the latter fetal parts could be felt to the left and posterior to the uterus. Such, in brief, was the typical course of this case; and now I desire to call your attention to the value and necessity of certain operative procedures.

As soon as partial anesthesia was induced the introduction of salt solution beneath the breast was begun, and when the patient was taken from the table two quarts had been given and most of it had already been absorbed.

The placenta was found attached to the posterior surface of the broad ligament and to several coils of small intestine in the *cul-de-sac*. The posterior wall of the gestation sac was coherent to the colon and small intestines. There were clots in various stages of organization in the abdominal cavity, representing the different periods of previous ruptures. Ligatures were immediately placed on the ovarian artery, and a clamp was applied over the tube and broad ligament along the left side of the uterus.

With the checking of the main blood-supply the fetus and the various blood-clots were removed from the pelvis and the placenta was carefully detached. The posterior wall of the gestation sac was carefully handled with a view to leaving it as a shield for the general abdominal cavity. No attempt was made to clean the general peritoneal cavity, but as much salt solution as the space would contain was poured into it and left when the stitches were tied.

The posterior wall of the gestation sac was sewed to the upper portion of the wound in the abdominal wall, and the cavity of the gestation sac was packed with gauze to control the general oozing.

The patient's condition when first placed upon the table was very precarious, but with the absorption of the salt solution beneath the breast and the use of one-fifth of a grain of strychnin sulphate, the pulse gradually grew stronger and fuller, and at 4 p. m. it was 140 in rate.

One-half pint of salt solution was given per rectum every hour, one-thirtieth of a grain of strychnin every four hours, and four minims of the fluid extract of digitalis were given every four hours hypodermically.

At 7 p. m. the pulse again began to waver, and again a subcutaneous injection of two quarts of salt solution was given, and at midnight the pulse was 160 and rapidly growing stronger and slower. Twenty-four hours after the operation the pulse was 128, and never again rose above this point. The stomach was irrigated 30 hours after the operation and undigested food with a large amount of raspberry seeds were removed. The nausea ceased and nothing further complicated convalescence.

The rapidity with which this patient responded to the use of submammary injections of salt solution when her condition seemed most hopeless, and the ease with which the general

peritoneum cared for the blood and clots that were left in the cavity, are the two important facts to be deduced.

I wish to call your attention to one other point. However hazardous the attempt seems, my own conviction is that all of the placenta should be removed in every case. The danger of intoxication or general sepsis from this (usually sloughing) mass is avoided and the convalescence shortened.

And lastly, I have seen many accidents happen because of the early removal of the gauze packing. My own practice is to wait until nature has made a firm wall about it and the granulation tissue which early permeates the gauze has sickened of its work and died.

Case III: Mrs A. G., aged 23 years, came into the hospital with a tentative diagnosis of old ruptured tubal pregnancy with general pelvic peritonitis. She was much reduced in weight and color, having suffered for six months with intermittent abdominal pains with more or less severe internal hemorrhages. The history rather pointed to intrauterine gestation with miscarriage, followed by a septic peritonitis. At the operation the latter proved to be the correct diagnosis. The pelvis was completely filled with enlarged, thickened inflammatory tubes and exudate. The usual landmarks were obliterated and the pelvis was cleared with great difficulty. The rectum was accidentally torn, and it was found necessary to resect about three inches of it, making an end-to-end anastomosis. The patient was given two quarts of saline solution into the axilla during the operation with good results noted in the condition of the pulse.

A Mikulicz tampon was placed in the pelvis to control oozing and to protect the rectum at the juncture of the anastomosis, and two quarts of saline solution were placed within the abdominal cavity.

The greater portion of this was drained through the Mikulicz tampon, the gauze dressing being changed frequently.

The patient passed through the first 24 hours in fair condition. The pulse, weakening 12 hours after the operation, was readily helped by a quart of saline solution given subcutaneously.

From this time the patient steadily improved toward convalescence without an untoward symptom.

The three cases detailed are sufficient to show the range of applicability of this invaluable agent. I have used it in those extreme cases of prolonged pelvic suppuration where the vitality was so low as to preclude the possible hope of recovery.

Beginning its introduction subcutaneously after partial anesthesia and continuing it throughout the operation with the effect to *prevent shock*, or seemingly loss of strength as in many instances, the patient left the operating table with a better pulse than at any time noted for days before.

I have given you but the clinical experiences that I have enjoyed in the use of normal saline solution. The theories and speculations in regard to its actions and results must be determined by the laboratory workers. That it has a wide range of applicability I believe all will admit.

536 Rose Building

Pyothorax

BY O. T. MAYNARD, M D., ELYRIA

The object of this brief paper is not to treat the subject exhaustively, or to dwell upon symptoms that are well known, but to suggest a few thoughts gained by experience that may call out a profitable and interesting discussion.

Empyema is quite a common condition in childhood, and few diseases present greater difficulties in diagnosis. Fully 19 cases out of 20 follow pneumonia. Tuberculosis is a rare cause in early childhood. In adults it may be a common cause, but even this is being seriously questioned at the present time by many careful observers with a large experience. Empyema becomes more frequent after the seventh year and may complicate the infectious diseases of childhood, or pyemia from any cause.

The history nearly always shows an antecedent pneumonia. The child presents a cachectic appearance. There is usually cough and fever. The physical signs are a flatness on percussion, which almost never occurs in the pneumonias of children, and strongly suggests a fluid, and absence of breath sounds and vocal fremitus. The symptoms due to a change of position, so ably pointed out by Dr Kelley, may throw new light on the diagnosis and should be carefully looked for. The extent of flatness and the position of the apex beat of the heart are always diagnostic. Clubbed fingers, when present, should suggest a chronic empyema. An exploring needle is, however, the only absolutely certain method of diagnosis and should always be used. The danger from infecting a serous effusion is very slight if ordinary antiseptic precautions are taken. Do not use too small a needle, and do not go through pus into the lung tissue. In cases of double empyema even greater difficulty may be encountered in making a diagnosis, but the ordinary rules, carefully carried out, will clear up these cases. Encysted empyema requires far greater skill, is much more difficult to diagnose, and is more liable to rupture through the bronchus.

The prognosis is usually good if radical treatment is adopted

early (Rilliet and Barthez report 33 cases without surgical treatment of which number 21 died). It is possible for cases to recover without surgical treatment. The chance, however, is only about one in nine and the possibility for good health is much less. The pus may be absorbed, or spontaneous rupture may occur through the lung, especially in encysted cases and the pus may be discharged through a bronchus, but we know that this is a bad method, as it infects a large area of lung tissue and is liable to lead to the formation of pus pockets, or it may discharge exteriorly; in such cases it usually opens anteriorly near the nipple.

The surgical methods used are aspiration, incision with drainage, and incision with resection of one or more ribs for more complete drainage. Aspiration seldom cures. Of 121 cases collected by Holt treated by aspiration 23 were cured, 6 died and 92 came to some other operation.

Time is a very valuable element in these cases if we expect recovery with a complete restoration of function in the compressed lung. In old cases the exudate becomes firm, and the lung cannot expand to fill the place formerly occupied by the pus. The sooner complete drainage is established the less firm will be the exudate upon the visceral pleura, and the more easily can the lung resume its normal function.

The danger of a general anesthetic in these cases is great. The incision *can be done*, however, under local anesthesia, but in childhood the fear of an operation and of the surgeon is almost general, and resistance and crying is usual. As it is these factors that constitute a large element of danger in an anesthetic, I very much prefer a general anesthetic which has been preceded by half an hour with an hypodermic of morphin, which removes nervousness and permits the needed work to be done with a minimum of the anesthetic. Incision often has to be followed by resection, thus losing time.

For the above reasons I believe our best treatment is resection of a rib with complete drainage as soon as a diagnosis has been made, thus saving all of that valuable element—time—possible. The cases that would have recovered by aspiration or incision will recover just as well after resection, and those cases that will eventually come to a resection stand a much better chance for complete recovery if the resection is done early. About two inches of rib should be removed without opening the periosteum on the inner side of the rib or injuring it above, more than possible. The opening into the pleural cavity should be made through the intercostal space below or above the resected

rib, and thus leave the periosteum to replace the rib. Break up all adhesions with the finger by sweeping it around as far as possible. Allow the pus to escape slowly. Do not irrigate the cavity unless the pus is fetid. Use a double drainage tube held in place with safety-pins to prevent it escaping into the pleural cavity. Do not leave the tubes too long, but cut them off a little at each dressing; usually they can be removed entirely in about two weeks. The temperature curve is a good guide as to the thoroughness of the drainage, a pocketing of pus usually causing an increase of temperature.

In addition to early operation I want to urge upon you the importance of after-treatment. Give from the first, and continuing for a long time, the syrup of the iodid of iron to assist in liquefying the exudate, and allowing the lung to expand, and commence the early use of some modification of the James' apparatus and use it several times a day for a number of weeks. This consists in blowing a liquid from one bottle to another arranged at different heights according to the power of the patient, increasing the height of the second bottle as the power of the lung is increased. A general tonic treatment, and the meeting of symptoms as they arise, is not to be neglected, but do not over-medicate. With these suggestions carefully followed, I feel sure that we should seldom see a seriously crippled lung following empyema.

A Case of Pemphigus Neonatorum Associated with a General Infection by the Staphylococcus Pyogenes

BY J. C. MILLER, M. D., MAUMEE

On January 1, 1901, I was called to see an infant nine days old with many bullae over its shoulders and the lower part of its body. No history of syphilis was obtained in the parents, or in two other children. The home was one of great destitution and squalor, and the infant had been neglected from the time of its birth. The mother was unable to nurse the child, and its food had been principally fennel-tea with occasionally a little milk and water added. The child was certainly a vigorous one, for, in spite of this neglect, it was still plump and well nourished, weighing eight pounds, showing no evidence of previous starvation. The body was exceedingly dirty, and looked as if there had been no bath given for a week. The bullae were chiefly about the shoulders, buttocks and thighs. They were from a quarter of an inch to an inch in diameter. There were none present over the

back and chest, none upon the hands or feet, and only two upon the face. Some of them had evidently just appeared. These were flaccid and had slightly turbid contents; others had ruptured, showing a deep red base formed by the *cutis vera*, and still others showed superficial ulceration and were discharging pus. There was a moderately severe purulent ophthalmia with an abundant discharge of pus. The navel was normal; examination of the chest and abdomen was negative; the pulse was good; the temperature was 98.4°F.

An examination of the pus from the eye showed an abundance of pus organisms, but no gonococci. The contents of one of the bullae of the neck and another from the thigh both showed pure cultures of the *staphylococcus pyogenes aureus*. On the following day the general symptoms became worse; the morning temperature was 99.6°F.; the evening temperature was 102.5°F. There was quite marked general prostration, and many new bullae appeared, especially over the lower part of the abdomen and the thighs, some of these being two inches in diameter. Upon the third day the child grew worse very rapidly and lay in a dull, semi-stupid condition, refusing food, and lost in weight steadily in spite of free stimulation. New bullae appeared in regions previously unaffected, especially over the forearms, legs and feet. These came out with great rapidity, and often attained in 12 hours the size of an inch and a half in diameter. The epidermis would soon rupture much like that seen in a burn of the second degree. The temperature from this time ranged from 100.6° to 101.8°F., and death occurred from exhaustion about 60 hours after I first saw the patient.

Autopsy and bacteriologic examination 24 hours after death showed the body to be well nourished though covered by an extensive cutaneous eruption. The brain was moderately congested. The larynx was congested and covered with a thin grayish film which peeled off easily, leaving the reddened mucous membrane beneath. There was no membrane in the nasopharynx. There were large areas of atelectasis in both lower lobes of the lungs, with emphysema anteriorly and many punctate hemorrhages on the surface of both lower lobes with much general congestion. There were many punctate hemorrhages in the thymus. The liver and spleen were swollen and congested. The kidneys were congested, the Malpighian pyramids appearing almost hemorrhagic. The suprarenals were much congested, and showed small hemorrhages. The mucous membranes of the esophagus and the stomach were intensely congested. The Peyer's patches and the solitary

follicles of the colon were swollen and congested, but the mucous membranes were generally normal. Cultures from the lungs gave a *staphylococcus pyogenes aureus* and the *bacillus lactis aerogenes*. From the spleen and right kidney a *streptococcus* was obtained and from the liver a *streptococcus* and the *staphylococcus pyogenes aureus*. The bullae upon the skin gave pure culture of the *staphylococcus pyogenes aureus*. Great confusion exists regarding the term pemphigus. Ordinarily it is used to designate almost any lesion characterized by a bullous eruption. The acute form of the disease seen in very young infants certainly has little or nothing in common with the chronic form seen in older children and in adults. Hereditary syphilis is responsible for a certain proportion of pemphigus seen in newly-born children, and many writers have been disposed to regard all these cases as syphilitic. The facts, however, do not warrant such a conclusion. In this case there was no evidence whatever of syphilis, either clinical or pathologic, but the symptoms during life, postmortem findings, and the cultures all indicate a process of an acute general infection of which the bullous eruption was only one of the manifestations. This bears out the findings of Sterlitz and others, and shows that there are certainly cases of so-called pemphigus of sepsis in the newly-born. I believe that many cases formerly regarded as syphilitic will be found to belong to this category.

Department of Therapeutics

CONDUCTED BY J. B. MCGEE, M. D.

Infantile Convulsions: In the *New York Medical Journal* for March 14, 1903, Adah McMahan states that the treatment of infantile convulsions resolves itself into (1) the treatment of the convulsions, (2) the removal of the exciting cause or causes in the given case, (3) the prevention of any known cause again acting as an irritant, and (4) the strengthening of the infant's unstable nervous system. When first called to an infant in convulsions a few whiffs of chloroform will insure sufficient general relaxation to permit of a general examination, including the taking of the rectal temperature and also the history of the case. Should the diagnosis point to a direct irritation of the cortical cells, then the bromids will be demanded, effective elimination, a room kept well ventilated and darkened, quiet, and proper nourishment. In the so-called reflex irritations, as from improper food, foreign bodies in nose or ears, adherent prepuce or clitoris, or dentition, these causes should be corrected as soon as possible. To secure sufficient obtunding of cortical sensibilities during the spasm, morphin, 1/20 grain hypodermically, repeated in one to

two hours, or choral, three to eight grains to four ounces of warm milk in the rectum should be used. Chloroform may also be used to advantage. The pack, warm or cold, will (1) reduce the pyrexia, (2) increase peripheral circulation, (3) lessen the rigidity, and (4) assist in elimination. Saline infusions are of value where there has been a large drain from the system, as in dysentery or cholera infantum.

Ergot: A. T. Livingston (*Journal of American Medical Association* for March 21, 1903,) asserts that the usual therapeutic applications of ergot are for its action on the uterus and in capillary hemorrhage. He believes, however, that it is of the greatest value in congestion of the head, the rapidity of its action in acute disturbances of the circulation being astounding, and has a specific tonic effect on those vessels which are relaxed from lack of sufficient nervous impulse on them, or paralyzed from over-distension and incapable of contracting against this pressure from nervous impulse alone. Ergot too is not only the most effective agent in insomnia, but the sleep which follows its administration is the most natural that is produced by any drug. He states that in headache it will often give immediate relief, while chronic and recurrent headaches can be cured by a course of ergot, though he prefers to use galvanism over cervical sympathetics also.

Agurin: S. C. Reisman (*Medical Bulletin*, March) writes regarding the new diuretic agurin, the double salt of theobromin sodium acetate, that it possesses many of the qualities of an ideal diuretic. It acts in small doses, increases both the watery and solid ingredients of the urine, is unirritating either to the renal epithelium or the gastric mucosa, and is nontoxic and noncumulative. His favorable opinion of agurin is based upon the uniformly happy results he obtained with the remedy in numerous case of renal dropsy. He gave from $\frac{1}{2}$ to 1 gram, ($7\frac{1}{2}$ to 15 grains) three times a day and reports several cases successfully treated.

Arterial Sedatives: *Medicine*, for February, calls attention to the value of heart sedatives in cardiac involvement. The exhibition of digitalis has so long been regarded as the proper treatment for a failing heart that it sounds almost heretic to speak of the value of aconite and *veratrum viride* in disease of the heart. When vascular tension is high there is an increased work thrown upon the heart, and that organ must hypertrophy to successfully carry on the circulation. The vascular conditions arising from kidney lesions often lead to high vascular tension, and the effect of digitalis is often just the opposite of that which is aimed at. *Veratrum viride* and aconite are of use because of the power they have in lowering vascular tension, in this way enabling the heart to carry on the circulation with less resistance and less labor. Not a few instances of disease, with cardiac degeneration as well as valvular disease, will be benefited by a cardiac sedative.

Acetozone: F. G. Harris (*Therapeutic Gazette*, March) concludes as to the action of acetozone in typhoid fever that under the acetozone treatment in favorable cases (seen early) the duration of the disease has been materially shortened and the most disagreeable symptoms ameliorated. The stupor and delirium were very much less, tympanites less frequent and diarrhea was checked, while the temperature was reduced. He is convinced from a series of 128 cases of typhoid that acetozone lowers the temperature, shortens the duration of the fever and lessens its toxic symptoms more than our better-known treatments. He believes that where cases can be seen during the first week of the illness and given large amounts of acetozone solution regularly and often assisted by a gentle laxative, the temperature will return to the normal in 10 or 12 days.

Recurrent Vomiting: In the *American Journal of the Medical Sciences* for April, D. L. Edsall attributes recurrent or cyclic vomiting to acid intoxication, the cause of which we do not definitely know. His line of treatment based upon this condition is to administer an alkali, his preference being sodium bicarbonate. He has found this to answer remarkably well, the cases he reports being in children. In the first case reported in a child in whom the attacks recurred frequently, in spite of rigid dieting and great care of the general health, rapid relief followed the use of 20 grains of bicarbonate of sodium every two hours. The dose was retained and after four or five doses were given the vomiting and nausea stopped, the patient rapidly recovering from the attack. No further attacks followed. An examination of the urine during the attack showed the presence of acetone and diacetic acid, and the effect of treatment in the case reported makes it seem practically clear that acid intoxication was the chief actor in producing violent vomiting and the results of treatment in five of the six cases reported have been altogether satisfactory both to the medical attendants and the parents, while previously they were entirely discouraging. Dr Edsall states that if this treatment is to be used at all some readily diffusible alkali, as sodium bicarbonate or citrate, should be chosen, and extremely large doses should be given as soon as the first suggestion of an attack is observed. One hundred grains given as rapidly as possible is probably a low limit. It is best to keep up the rapid administration of large doses until the urine is decidedly alkaline and then keep the urine alkaline until the symptoms have disappeared. The author wishes it clearly understood that in his opinion recurrent vomiting is not always due to acid intoxication. It is highly probable that the attacks we call recurrent vomiting are not always dependent on the same primary disorder. It will however be an easy matter to determine in how many cases this form of intoxication is present, and how frequently flooding the organs with alkalies will prove to be an effectual treatment.

Pneumonia: F. P. Henry, (*Philadelphia Medical Journal*, February 14) in summarizing the remedies in pneumonia, asserts of quinin that in his opinion the most valuable of the recent contributions to the therapeutics of pneumonia is the value of subcutaneous injections of quinin in the treatment of this disease. During the last three years in which this method was employed in one of the hospitals of Magdeburg, the mortality was 12% less than in other hospitals in the same city. It would seem from Petzold's Statistics that quinin employed hypodermically deserves to be regarded as a specific in cases of lobar pneumonia, caused by Frankel's diplococcus, and it is equally efficacious when the sputum contains, in addition to the last named organism, streptococci and the bacillus of Friedländer. The dose for adults is 0.5 (7½ grains) of quinin hydrochlorate in 17 parts of water. In children from 10 to 15 years of age one-half this dose was employed in nine parts of water. As regards the number of such injections, Aufrecht, who introduced this method of treating pneumonia, found two such injections in two successive days to be sufficient. In only seven cases out of 73 successful cases were more than three injections administered. Its use does not dispense with other generally accepted methods of treating pneumonia, and Henry, who has used quinin as recommended by Petzold, is convinced of its efficacy and regards it as a valuable addition to the treatment of pneumonia. He has generally prescribed the hydrochlorosulphate of quinin for hypodermic use as it is the most soluble of the quinin salts.

Antitoxin: J. O'Malley, in *American Medicine* for January 17, strongly advocates the use of diphtheria antitoxin in the bronchopneumonia of children. Antidiphtheritic serum has recently been employed with success in other infectious diseases than diphtheria. How it acts in these mixed bacterial conditions we do not understand, but that it does act and promptly too has often been demonstrated by numerous observers, some believing it produces a leukocytosis which in turn produces an antitoxin; others that it acts as a stimulant to the protective powers of the body. It has been employed with success in malignant scarlet fever, and whenever the staphylococcus or streptococcus is to be found. The cases of bronchopneumonia in which O'Malley used it were all secondary pneumonias of bacterial origin, complicating the various infectious diseases and exanthems of childhood. His results were excellent and he believes that in antidiphtheritic serum we have a most valuable agent for a class of cases otherwise beyond therapeutic aid particularly in those cases of bronchopneumonia which so often cause a fatal complication in the bacterial diseases of childhood, such as measles, influenza, whooping-cough and scarlet fever.

The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and
THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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EDITORIAL

The Public Water-Supply

In our last issue we expressed it as our conviction that what Cleveland needed most as a means of protection against the pollution of the public water-supply, was the installation of a properly equipped filtration plant. There has been not a little newspaper discussion upon this subject during the past six weeks, accompanied by various expressions of opinion as to the value of such plants for cities of the size of Cleveland. We have seen the statement made in the public press that such filtration systems were not practical for large cities and that a sufficiently large area of ground could not be obtained within a reasonable distance from our present pumping-station. The impression was further conveyed by this newspaper report that the amount of territory required for such a plant was too great to be practicable.

It is not our purpose to enter into a discussion of the *pros* and *cons* of this important question as it has arisen in Cleveland, but we feel it our duty to call attention to the results obtained by such filtration plants in cities larger than Cleveland, and in communities far more closely settled than is our own. The figures

given by Harrington (Manual of Practical Hygiene, Ed. II., 1903) in reference to the mortality rate from typhoid fever per 100,000 of the population in various cities of the world are, in our judgment, sufficiently convincing of the value of the modern filtration system as applied to the public water-supply. In order to emphasize the point under consideration we tabulate below 10 cities giving the method of purification of the public water-supply and the mortality rate from typhoid fever per 100,000 for the year 1896.

City	Population (1896)	Water-Supply	Mortality Rate per 100,000
Amsterdam.....	489,496	Filtered	3
Berlin.....	1,695,313	"	5
Dresden.....	342,340	"	4
Hamburg.....	625,552	"	6
Breslau.....	377,062	"	8
London.....	4,421,955	Partially filtered	14
Philadelphia.....	1,188,793	Not filtered	34
Baltimore.....	507,398	" "	37
San Francisco.....	330,000	" "	31
Cleveland.....	330,279	" "	43

Appalling as are the figures given above for Cleveland they become even more startling if we take those for the year 1900, from the last number of the *Ohio Sanitary Bulletin*, when, with a population of 381,768, there were 265 deaths from typhoid fever, or a percentage of 54 per 100,000 of the population.

The Bactericidal Efficiency of Filtration-Beds

From what has been stated above, it is plain that the bactericidal properties of a properly-installed filtration system are tremendous, as evidenced by the low death-rate from typhoid in those cities employing this method.

It is interesting to note in this connection the actual results obtained from filtration-beds already in practical use. According to the figures given by Harrington, the filter at Lawrence, Massachusetts, removes more than 97.5% of the organisms present in the water as delivered, and at the house-service pipes shows an even greater reduction of 99.17%. At Hamburg, Altona and London, the reduction is said to be about the same.

Of the several forms of sand-filtration systems, largely in use at the present date, the so-called English slow-sand type is said to show a higher efficiency than the more rapid American system,

being, according to Chapin, (*Ohio Sanitary Bulletin*, February-March, 1903), 99% in the former, as against 95% to 99% in the latter.

As to the cost of maintenance of such a plant, Chapin states that it varies somewhat according to the local conditions. The results, however, obtained in Albany from a 15,000,000 slow-sand type filtration system show, according to this authority, an operating cost of \$1.66 per 1,000,000 gallons filtered.

As a conservative estimate of the results accruing from the installation of a well-appointed filtration plant, Chapin shows that it will reduce the typhoid mortality one-half—actual results already show a much greater reduction than this—and will save annually from 22 to 29 lives per 100,000 of the population, which, figured out, upon an absurdly low basis in dollars and cents, means a commercial saving of \$6,500 annually for every 10,000 of the population, or about \$260,000 a year to the city of Cleveland.

The Cost of Typhoid Fever to Cleveland

At the present time we are, as a city, so vitally interested in the need of a more perfect water-supply and its cost of installation as well as maintenance that a brief review of the direct and indirect loss to the city from typhoid fever alone is of great value. In the consideration of the estimated loss as a result of typhoid fever one must take into account not only the annual number of deaths resulting from this disease but should include the total number of cases of typhoid occurring during a given year. It is only by estimating in this way every isolated case of the disease that we can hope to arrive at any accurate conclusions as to the great commercial loss which ensues because of its endemic occurrence in our midst.

No adequate statement of the number of cases of typhoid fever can be made on the basis of the number of cases reported. There are, however, many reasons for thinking that 10% is not far from the average mortality of this disease under all conditions of treatment, and on this basis the number of deaths recorded would imply a total of nearly 21,250 cases for the 13 years from 1890 to 1902 inclusive, which figures we take from a statistical paper published in this number of the JOURNAL.

In some States the law places a value on human life at \$5,000 which may be considered a low estimate, particularly in a disease like typhoid fever which causes a very large proportion

of its deaths in early adult life, when the earning capacity of the decedent is at its maximum. On this basis the loss to the city by the death of 2,125 individuals is \$10,625,000; burial expenses at \$50 would be \$106,250; medical expenses for the 21,250 who had the disease at an average of \$30 each would be 637,500; nursing expenses for the same total at an average of \$20, which may be regarded as a low estimate if both actual outlay and loss of time of other wage-earners is considered, would be \$425,000. Loss of wages to 19,125 who recovered at an average of \$1.50 per day for one month would be \$688,500. The estimated cost here given, with the exception of that on the life itself, is lower than that usually assigned, but foots up to the enormous total of \$12,482,250, or an average loss to the city of more than \$960,000 yearly.

Dangers from Undisinfected Typhoid Excreta

While it has been of great assistance to physicians to know that the main source of infection with the typhoid bacillus lies in unsterilized drinking water, it is necessary to go further back than this. Most of our water-supply comes from streams or lakes which drain country land, either directly or indirectly, and the possible infection of the water at its sources is of great importance to the community at large. In thinly settled districts there are few facilities for the proper disposal of feces, and it is only too common, as well exemplified in the photographs in the *Journal of the American Medical Association* referring to the Ithaca epidemic, to find the vaults on the slope draining to the stream, if not on the very banks. In addition to the dangers from such proximity to the sources, it is not infrequent to find the material removed on emptying the earth closets used as manure and spread over the ground, in a very favorable place for contamination of the ground water. Though this is less frequent in this country than abroad, it is quite sufficiently so to be a source of great danger.

A number of experiments have been done in past years to ascertain the duration of life of the typhoid bacillus under such circumstances. Various writers have found that infected water poured over the ground penetrated to a depth of 18 inches, and that the bacilli were still alive in earth previously sterilized even after more than a year. This time was found to vary under different circumstances, the bacilli dying out sooner in unsterilized earth, perhaps because of the chemical changes induced by the

earth bacteria. Other observers have noted that the bacteria may appear on the leaves of plants growing in such infected soils in spite of the bactericidal action of sunlight, and the mechanical action of rain.

Levy and Kaiser have recently studied the earth of a garden in a suburb of Strasburg which had been manured with earth and feces from an old vault. The vault was cemented and five months previously had received dejecta from a patient with typhoid. The material had been undisturbed during the early winter, and was then removed and spread over the garden. Cultures were made every day for 15 days, and typhoid bacilli recovered without difficulty in every case. The temperature varied between 0 and 4°C. (32-40 F), and the weather was variable, with rain and snow. The persistence of the organisms over such a long time is an index of the danger to the community from such disposal of excreta without disinfection. Putting aside for the present the contamination of the water-supply, there is the probability of infection from such vegetables as are eaten uncooked, and which may have been manured with infected material. The root of the matter is of course in the immediate disinfection of the feces-urine, and attention to this matter cannot be too strongly urged on all who have to do with patients suffering from typhoid.

The Newspaper in Medicine

In this age of the world's development when we accept with equanimity the marvelous accomplishments of wireless telegraphy, self-propelled vehicles, dirigible balloons and ubiquitous reporters, it must indeed be a sound intellect that can maintain its accustomed poise in the face of the constantly increasing wonders retailed in the daily press.

No less marvelous than the advances noted in the mechanical sciences has been the progress made during the past decade in the associated sciences of biology and physiology. Thanks to the zeal of trained reporters, speculative theories hitherto deemed absurdly beyond reason have become household watchwords the world over, and are, indeed, accepted as though they were of but ordinary significance. The modern householder rises to read, almost daily, in his chosen paper, of a new serum or a new operation in as matter-of-fact a way as though they could be turned out over night simply by playing upon the keys of that almost human linotype machine.

That the newspaper as an educator has been a tremendous factor in increasing generally the knowledge of the development of mechanical sciences, and profitably so, must be admitted. In respect, however, to the biologic sciences and notably along the lines of medical research, it may, we believe, be questioned whether as a purveyor of serious intelligence, the newspapers as a class have performed a task at all commensurate with the character of the work concerned. We say, with the character of the work, when we should perhaps make the reservation implied by a qualifying adverb and add, the character of the work sometimes concerned.

No one can question the motives of the general public in its desire to keep intelligently informed upon the advances in all the sciences, and for the purpose of gratifying this natural demand, it is right and proper that certain periodicals should publish all items of real value and interest to the public after they have been intelligently and carefully edited by some one who can sift the chaff from the grain.

With, however, the present widely prevailing tendency on the part of many newspaper and magazine editors to print the last bit of news from the laboratory portrayed in colors absurdly out of harmony and in lines all out of perspective, we have no sympathy, and are firmly convinced that such methods result in far more harm than good.

Medical truths are not always available as epigrammatic axioms for discussion at the breakfast table. It is an absurd and mistaken judgment that regards them as such.

Advertising

In almost every city in this country may be found a medical man—often a surgeon, the spectacular character of whose work lends itself especially to the sensational press—whose name is occasionally found in the newspapers in connection with an account of some wonderful (?) operation. It frequently happens that he is a man who has stood well in his profession and has received honors at its hands, but who has had his mental equipoise and moral balance upset by the superficial glitter and fleeting glamor of publicity. Often of course he is of no account within the ranks of his own profession. In the latter case his advertising does little harm, but in the former the bad example of a prominent name dragged into the com-

mercial "hustle for business" does infinite damage to the character of the younger men in the profession.

As has often before been pointed out, there are those who are so "slick" in their methods that it is practically impossible ever to prove their guilt, especially in the face of righteous protestations of innocence. Yet the fact that any one name repeatedly appears in the daily prints is always strong presumptive evidence that its presence there is not displeasing to the possessor of the name, and for the following reason: Only one well-authenticated instance of a physician against his protests having his name used repeatedly in the newspapers in connection with his professional labors has ever occurred in this country. On the other hand there are on record a very large number of instances in which physicians whose names were thus used without authorization have readily been able to put a stop to the practice. There is hardly a newspaper editor in existence who will permit his paper to use the name of a prominent member of his community in this way against the expressed wish of the victim. In two instances in this city in which surgeons had their operations reported in the press, a visit to the editor's office, accompanied with a frank statement of the real damage to the professional standing of the victim that would follow a repetition of the offense, promptly brought forth a promise that no such reports would ever again be published unless with the consent of the surgeon after he had seen an advance proof. These agreements were noted in this JOURNAL some years ago, and they have never been broken. We pointed out at that time that this method was almost always available to the man whose reputation was thus recklessly being bandied about by irresponsible reporters. The method is still in reach of those in similar circumstances.

Occasionally a physician, who has become accustomed to seeing his cases reported in the newspapers, is greatly annoyed when finally he discovers by running into a criticism that his professional standing has suffered. This is most curious as indicating that physicians are not exempt from the strange psychic obsession that so frequently attacks those who stand the glare of publicity. This obsession is so dense that its victim is unable to perceive the damage that he is doing himself before both the profession and the public. For, while he recognizes that his professional brothers deprecate his course, the victim of the newspaper habit always thinks that this is more than compensated for by the increased public esteem in which he is held.

This is the depth of the delusion from which he suffers, as he himself would realize if he could hear the comments passed upon him in the clubs and on the street by the clear-headed commercial intellects that make and guide the activity of the community in which he lives. Trained business men are never fooled in this way. On the contrary they pitilessly ridicule the professional man who rushes into print.

In addition, another very great disadvantage always accrues to him who permits his cases to be reported in the newspapers, who is careless about permitting newspapers to publish articles in advance of their reading at medical societies, or who allows the newspapers access to letters before they reach their destination. In any case in which he is innocently victimized by the reporter who is always hunting a "sensation" that will sell, he is almost certain to be misjudged, and to be in advance condemned as guilty because his previous course has been such as to engender suspicion in the minds of his professional acquaintances. In this way it happens that his laxity in not early preventing the newspapers from doing him an injury leads inevitably to his being accused of that of which he may be entirely innocent, and so he is doubly the loser from his neglect to appeal to the editors of newspapers to cease using his name. As noted above, editors can almost always be counted upon to cooperate, and in case of refusal the victim can always place this fact on public record in the medical journals, and thus free himself of suspicion of complicity in subsequent unpleasant happenings.

In making the above very obvious remarks the JOURNAL is entirely impersonal and is simply actuated by the desire again to draw the attention of medical men to the real facts in such cases. It is necessary to keep the professional conscience well aroused so that the few who yield to the temptation to destroy themselves may not lead the innocent blindly into the same dangerous and dismal swamps.

The Visiting Nurse Association

The first annual report of the Visiting Nurse Association of Cleveland constitutes a record of a work of which those in charge should be justly proud. Apart altogether from the charitable motives underlying this movement which has become so thoroughly established in all our large cities, such a work cannot fail to be of an immense hygienic and economic value. We venture to assert that it would be impossible to estimate at all

accurately the number of serious epidemics that have been averted as a direct result of the work of this Association.

In all 1,122 patients were cared for during the eight months ending December 21, 1902, which, as a record of the first eight months, is indeed suggestive as to the future growth of this work in our rapidly developing city.

In order that this Association may increase its sphere of influence and the extent of territory covered by its workers, the appeal is made for a continuance of the same generous support which has marked its beginning—an appeal which we are sure will meet with a liberal response.

A Correction

We regret that through a misunderstanding the article by Dr Torald Sollmann in the March number of the JOURNAL appeared as a single paper when it should really have been published as two distinct notes. The notes at the bottom of page 139 of the March issue referred to the table of analysis of fluids from abdominal cysts appearing on page 140, and should have properly succeeded the summary at the top of page 141 of that issue.

Here and There in Europe

FROM OUR TRANSATLANTIC CORRESPONDENT

Salins-de-Jura, (FRANCE)

This is one of the health stations of Europe which has not yet received the attention it well merits from Americans visiting the Old World. The location is picturesque, the mineral waters are rich, the hotels are comfortable, but not luxurious. Perhaps this want of "pomp and show" may, in a measure, account for our oversight of Salins-Jura.

The little town (6000 inhabitants) is at the beginning of the Jura chain of mountains and at the northeast extremity of the Jura department. It is situated in a deep valley between the steep hills of St. Andre and Belies. The altitude of the town is nearly 1200 feet above the sea-level, the heights immediately around it averaging 2500 to 3000 feet, so that the place enjoys the advantages both of medium and high elevations. The climate is temperate and usually dry in summer; in the hottest weather the east breezes of the mornings and evenings render the nights very agreeable, and also maintain fully the salubrity of the valley and preserve it from epidemics of all kinds.

Salins-Jura has a modern Thermal establishment divided into two distinct divisions; one is reserved for the pleasures and hotel

accommodation for its visitors and the other, devoted specially to medical purposes, is well provided with hot and cold douches, vapor baths and a good staff of masseurs and douchers. Its medical corps is efficient and the treatment and regime is noted for the faithful adherence to the prescriptions of the physicians. The great bath containing 86,000 liters of mineral water, constantly renewed, is also one of the features of the place.

The spring exclusively reserved for medical purposes yields over 4,000,000 gallons daily of clear salt water, which is digestive, tonic, resolute and reconstituent. When taken too freely it is laxative, but as prescribed by the resident doctors it produces excellent effects in all cases requiring an increase of activity in nutrition. For convalescents, lymphatic and anemic patients, ganglionic and osseous tuberculosis, fibrous tumors and chronic ovarian troubles, a season at Salins-Jura can be strongly recommended. The best hotel is the Grand Hotel-des-Baines, situated in the garden of the establishment and having all modern comforts. The Casino has good music daily, the usual Continental amusement. The excursions are also attractive and numerous. Taken altogether, Salins-Jura deserves far more notice from Americans in Europe.

Book Reviews

Biographic Clinics: The Origin of the Ill-Health of DeQuincey, Carlyle, Darwin, Huxley and Browning. By George M. Gould, M. D., Editor of American Medicine, etc. P. Blakiston, Son & Co., Philadelphia, 1903.

In this series of delightful essays, Dr Gould has attempted to establish, upon the anatomic basis of eye-strain, the origin of the ill-health of his five famous characters. That he has succeeded in accomplishing the end in view, must, in the face of the evidence cited, be admitted; and there is something almost tragic in the overwhelming sense of the uselessness of all this suffering as portrayed in the lives of these five men.

With De Quincey, Carlyle and Browning, one can understand how an insignificant eye-strain might, if overlooked, become a tremendously potent factor for ill, but with Huxley and Darwin it is quite different, and it is indeed difficult to comprehend how two such scientists can have groped so utterly in the dark as to the origin of their intolerable struggle against ill-health.

It is easily conceivable that in the perusal of any life-story we may approach our subject so engrossed each by his own peculiar interest in it, that we may unwittingly overlook an apparently insignificant but really fundamental point. The reviewer is forced to admit that this has been true in his case in respect to the lives of both Huxley and Darwin. Though read, and in

many parts reread more than once, he utterly failed to appreciate the true significance of the very passages which form Dr Gould's strongest evidence for the origin of so much of their intolerable suffering.

Not only has Dr Gould pointed out the tremendous significance of many apparently trifling symptoms as illustrated in these lives, but he has emphasized their great importance in the life of every one of us, and has told the story in such a way that the lesson cannot be soon forgotten.

In the two chapters entitled Bilioussness and Headache and Responsibilities there is a wealth of sound advice of the greatest value to every physician no matter what his specialty may be. It may be thought by some that the distinguished editor of *American Medicine* has taken perhaps a little too pessimistic view of the prevailing vague notions as to the part played in ill-health by that most delicate and most abused of all structures of the human organism, but with this view we cannot agree. We are delighted to add our hearty concurrence with the points brought out and emphasized by Dr Gould in this work. In addition to the presentation of his subject in a series of delightful monographs, Dr Gould has further rendered a distinct service to the profession at large.

A Manual of Materia Medica and Pharmacology, Comprising all Organic and Inorganic Drugs Which Are or Have Been Official in the United States Pharmacopœia, Together With Important Allied Species and Useful Synthetics. By David M. R. Culbreth, Ph. G., M. D., Third Edition, Revised and Enlarged, with 473 Illustrations. Lea Brothers & Co., Philadelphia and New York, 1903.

This is one of the best books upon the subjects of which it treats. The present edition has been thoroughly revised, the outlined list of drugs of the forthcoming Pharmacopoeia having been taken as a guide in its preparation. The arrangement followed associates as closely as possible those remedies having a common or allied origin, while those next related follow in regular order. This idea, while new, is certainly a convenient and practical method and the work embraces not only the official drugs, but all others of value in general use. The illustrations are excellent and many of them are new. The volume presents within a convenient compass a most complete and satisfactory treatise on materia medica and pharmacology, and the therapeutic summary of each drug, while not as extensive as might be desired, is essentially accurate.

The Manual Treatment of Diseases of Women. By Gustaf Norstrom, M. D., of the Faculty of Stockholm. 230 pages quarto. G. E. Stechert, New York and London.

Pelvic massage has never been very popular with the profession in America and perhaps, as the author of this book suggests, it is because its advocates here have not sufficiently emphasized its importance in the treatment of inflammatory conditions of the pelvic organs. His own results, in many

instances, would seem convincing but as is usually the case with an exponent of one particular form of treatment, he is apt to ascribe too much weight to this hobby and to neglect or minimize the effects of other well-recognized therapeutic measures. Some of the objections of pelvic massage consist in the necessity for a proper selection of cases, and the inability of many, having insufficient experience, to carry out the finer points of the technic; the course of treatment is usually prolonged and daily sittings are required, the symptoms are often relieved long before the pathologic condition is cured, and hence patients are very apt to discontinue treatment too early, only to have a return of their troubles later; the indelicacy of the treatment, according to the author, exists largely in the imagination of those unacquainted with the actual procedure. This opinion, however, is rather widely held here and is the chief obstacle to the adoption of this method. His views on displacements differ from those of the majority and some of his statements in different parts of the work scarcely agree; he ascribes no importance to displacements *per se*, and yet in another place he says that adhesions often result from simple friction such as occurs in retrodisplacements. He considers pessaries to be practically of no use.

Clinical Surgery: For the Instruction of Practitioners and Students of Surgery. By A. J. Ochsner, B. S., F. R. M. S., M. D., Chicago. Surgeon-in-chief Augustana Hospital and St. Mary's Hospital. Professor of Clinical Surgery, Medical Department University of Illinois. Cleveland Press, Chicago, 1902.

This volume is entirely clinical in character, being an exposition of the surgical procedures which have proven most satisfactory in the actual practice of the author. All discussion of unsettled problems is eliminated, and there is a total absence of obsolete methods and surgical curiosities. Some of the writer's well-known views on the treatment of appendicitis will meet vigorous disapproval from the majority of the most prominent surgeons in the country, but his low mortality statistics apparently support him in his mode of treatment.

In the discussion of femoral hernia, the reasons given for the author's radical departure from the accepted principles of the treatment of this affection are far from convincing, and though the results are claimed to be good, we believe few surgeons will adopt the author's method of treating this form of hernia.

The illustrations are from original drawings and serve in an excellent way to elucidate the points made in the text. The paper, press-work and binding are very good and the general practitioner, compelled to do occasional surgery, will find the book a desirable addition to his library.

We desire to draw your attention to the fact that the annual meeting of the Ohio State Medical Association will be held at Dayton, June 3-4-5. A very interesting program has been arranged.

Medical News

Charles Corwin, of Lebanon, will locate in Columbus.

Arthur M. Harrison, of Napoleon, will locate in Bowling Green.

T. R. Wilson, of Smithville, will change his location to Otsego.

H. C. Wendel, of Cincinnati, was hurt in an accident on February 8.

Robert Sattler and Miss Agnes Mitchell, of Cincinnati, were married on March 1.

Harry Schirman, who recently returned from Europe, will locate in Portsmouth.

B. G. Hannum has removed his offices from 710 Rose Building to 846 Rose Building.

The schools of McArthur were closed for two weeks early in March on account of scarlatina.

The epidemic of measles at Columbus was at its height during the latter part of February.

The Ohio State Pediatric Society will hold its annual meeting on June 1 and 2, 1903, at Dayton.

"Dr" John Palkovich was arrested February 20 at Toledo for practicing medicine without a license.

M. W. Bland, of Shelby, will locate in Bellevue where he will associate himself with S. McKenney.

H. C. Gooding, of Leetonia, sustained a very severe infection while conducting a postmortem examination.

At the examination for internship at the Cincinnati City Hospital early in March there were 26 candidates.

The Columbus Board of Trade urges general vaccination and cordially commends the efforts of the health department.

The health department of Columbus has inaugurated the same plans for free vaccination that were in vogue in Cleveland last fall.

Assistant Health Officer LaSalle, of Toledo, has resigned his position in order to take up post-graduate work in New York and Europe.

Robert Swigart, of Tiffin, has accepted the position of plantation physician for a large American Fruit Company at Bocos del Toro, Colombia.

Licensing and inspection of Hospitals by the Health Department were provided for in an ordinance passed unanimously by the Chicago Council.

Acting on the recent decision handed down by Judge Biggar, Dr Probst will enforce the vaccination laws to the letter in his effort to stamp out smallpox in Ohio. The sooner this is impressed on the minds of all antivaccination cranks in the State the sooner smallpox will have an end.

Henry M. Taylor, of Columbus, who resigned his position as assistant adjutant general, March 5, is critically ill. He is threatened with uremia.

H. C. Gooding, of Leetonia, was infected while holding a postmortem several weeks ago, and on February 1 his recovery was almost despaired of.

William A. Burns, of Dayton, was appointed captain and assistant surgeon of the Ohio National Guard and will be attached to the Ninth Battalion.

C. D. Bonner has resigned the position of Health Officer for Leesburg township. Dr Conrad, of Magnetic Springs, has been appointed to fill the vacancy.

The Gallia County Medical Society met February 10 at Gallipolis. Papers were read by A. P. Ohlmacher and a report of a case by C. L. Chadbourne was made.

The State Board of Medical Examiners completed the work of grading the applicants who took the examination to secure licenses to practice medicine February 5.

C. E. Kimerline has disposed of his property and practice at Lykens to Dr Carls, of Koch. Dr Kimerline will do some post-graduate work in the east before resuming practice.

Judge Bigger, of Columbus, handed down a decision February 4 to the effect that the school board had a right to prescribe vaccination as a requisite to attending the public school.

The Canton Medical Society held its regular meeting February 6. The entire session was taken up in the consideration of a paper by C. E. Shilling entitled "General Anesthesia."

An order will be issued soon by the adjutant general direct to regimental, separate battalion, battery and troop commanders, recommending that the members of their organization be vaccinated.

"Dr" William E. Campbell, of Grafton, whose license as a doctor was revoked some time ago, has not been successful in his appeal to Governor Nash. The findings of the medical board were approved.

Pursuant to a call to organize a county auxiliary to the Ohio State Medical Association, a number of the physicians of Mercer county met on February 13 at Celina and perfected a temporary organization.

The Logan County Medical Society met at Bellefontaine on March 5. C. E. Huston, of Rushsylvania, read a paper on "Measles." B. B. Leonard, of West Liberty, also read a very interesting paper.

The Ashtabula, Lake and Geauga Medical Society met at Ashtabula on March 3 and adopted the Constitution and By-Laws to affiliate with the State Association and also reorganized as the "Ashtabula County Medical Society."

The Logan County Medical Society met in Bellefontaine, March 9. The interesting feature of the meeting was the reading by B. S. Leonard, of West Liberty, of a paper which he read before the Champaign County Medical Society on "Grave's Disease."

The Columbus City Council adopted a resolution March 9 providing for fumigation of street cars every 24 hours. One great mistake was made. No methods were prescribed and any manner of fumigation that the street-car companies see fit to adopt will have to do.

The Columbus Academy of Medicine held an open meeting on April 6. Dr John H. Lowman, of Cleveland, addressed the meeting, the title of his paper being "Tuberculosis and the Sanatorium." A banquet followed the meeting and was very largely attended.

The Green County Medical Society met March 6 at Xenia. Hugh Lorimer, of Jamestown, read a paper on nervous disorders which was discussed at length by the members. The question of making changes in the Constitution was discussed, but no changes were made.

The Clark County Medical Society met at Springfield on February 16 at the Lagonda Club, and it was decided to adopt the club rooms as the permanent place of meeting. The paper of the evening was by I. E. Seward upon "The Diagnosis and Treatment of Typhoid Fever."

C. O. Probst, Secretary of the State Board of Health, rightfully denounces the so-called "internal vaccination." He has received 25 letters from other State secretaries, everyone of which denounces the method and state that certificates from such sources are not recognized.

The regular meeting of the Belmont County Medical Society was well attended at Bellaire March 4, about 25 members being in attendance. The program arranged was carried out in its entirety and was interesting throughout. It was decided that the annual banquet that had been held formerly during this month would be postponed until during the summer.

The nonpartisan Board of Hospital Trustees of Cincinnati will retire next May and the Board of Public Service to be elected in April will take charge of that institution, select officers, staff of physicians, attendants and nurses and exercise general supervision.

The Washington County Medical Society met at Marietta on March 3. Samuel Hart read a paper which was followed by a general discussion. A discussion of the recommended Constitution and By-Laws for the reorganized Society occurred and they were finally adopted.

At the March meeting of the Cincinnati Academy of Medicine Byron Stanton was chosen president; J. L. Cleveland, first vice-president; B. P. Goode, second vicepresident; L. E. Conde, secretary; M. Tate, treasurer; A. I. Carson, librarian; N. P. Dandridge and A. B. Isham, directors.

Dr Metz, of Cincinnati, applied to the State Board of Health for a decision in reference to the authority of an osteopathic physician in vaccinating school children as he claimed that an osteopath has no right to perform surgical operations even in a minor form, and was sustained in his belief.

The Butler County Medical Society held a regular meeting March 4 at which the following papers were read: "The Feeding of Infants," by E. H. French; "Obstruction of the Bowels," by W. D. Hancock, of Millville. The papers were thoroughly discussed by all ten members present.

The Mahoning County Medical Society met February 10. W. L. Buechner was elected to honorary membership. Dr Warren read a paper on "Traumatic Surgery" and "The Treatment of Pneumonia" was the subject of a paper by Harry Evans. Dr Parish reported a case of abscess of the brain.

At the last meeting of the State Board of Medical Examiners it was decided that hereafter all papers of a certain subject should be examined by one member and each member to have only the papers of one subject to correct. This will ensure a uniformity of marking that has not been in vogue heretofore. The rule applies to every college in the State.

The physicians of Athens County held a meeting on March 17 and organized a medical society. The officers are as follows: President, C. S. McDougal, Athens; vicepresident, F. E. Danforth, Glouster; secretary, N. P. White, Athens; treasurer, A. H. Biddle, Athens; censors, J. M. Hyde, Nelsonville; H. D. Danforth, Trimble; A. E. Lawrence, Collville.

The Union Medical Association of Northeastern Ohio held its one hundred and twenty-sixth quarterly session in Akron on February 10. The Association is composed of physicians of fourteen counties in the northeastern portion of the State and there were over 100 in attendance. Addresses were given by H. S. Straight and C. F. Hoover, of Cleveland. The officers elected were: President, C. E. Norris, Akron; vicepresident, Edward Lauder, Cleveland; second vicepresident, F. C. Reed, Akron; secretary, J. H. Seiler, Akron; corresponding secretary, C. W. Millikin, Akron; treasurer, H. H. Jacobs, Akron.

The Canton Medical Society held a well-attended meeting on March 6. E. J. Marsh read, by request, a paper on "The Psychic Element in Health and Disease." A. C. Crane reported a case of atresia of the external auditory canal. The Secretary of the Society keeps a list open to the inspection of members of the unworthy delinquent debtors of the different members. At present there are 272 names on the list. This example should be an incentive to other societies to protect its members from chronic "dead beats" who try to secure medical attention for nothing, trusting to the generosity of the profession to escape suit.

The annual meeting of the Franklin County Medical Society took place on February 24, at Columbus. Dr Allman read a paper on "Disease of the Heart," and C. C. Wright read a paper on "Diseases of the Eye." The annual election of officers took place and resulted as follows: President, Sherman Leach; vicepresident, Theodore F. Davidson; second vicepresident, J. F. Reynolds; secretary, Dr McGavran; treasurer, J. C. Bishop; Board of Censors, J. U. Barnhill, W. J. Means and G. M. Waters; Committee on Program, W. C. Lenhart and J. H. Upham. At this meeting no steps were taken to complete the affiliation with the Columbus Academy of Medicine. The Franklin County Medical Society asked for more time in which to make their report, which was granted.

Smallpox in the State

Greenfield reported a case of smallpox February 20.

Two cases of smallpox were reported from Ada February 24.

On March 10 one death from smallpox and six new cases were reported at Columbus.

On February 16 the smallpox situation at New Concord was reported to be acute in the extreme.

The smallpox situation at Nelsonville, with 10 cases and one death, was reported under control March 5.

Two deaths and five new cases of smallpox were reported at the health office of Columbus on February 12.

At Wellston a baby was born March 2 with smallpox. The mother at the time had just gotten over the disease.

Smallpox has appeared among the students at Hiram College. Up to February 26, three cases had been reported.

A case of tetanus was reported in February from Columbus in a baby who sustained the infection through a vaccine sore.

A case of smallpox was reported from the United Presbyterian Seminary at Xenia February 3. The whole school is under quarantine.

Smallpox has again made its appearance in Guernsey county. A case was reported March 10 residing between Lore City and Senecaville.

Samuel Roberts, of Ironton, is suffering with a second attack of smallpox within three years. A case of this kind furnished good reason why physicians and nurses that have much to do with smallpox cases should frequently be vaccinated.

The post-office at Bradysville is under quarantine on account of smallpox in the family of postmaster Warner who is a member of the "holy band." This did not save him from the health authorities though.

Deaths

J. B. Collins, of Butlerville, aged 83 years, died February 5.

Chancy Clark Dunham, of Fulton, died February 22, aged 44 years.

Jonas Watkins, of Blanchester, aged 72 years, died February 5.

Charles F. Cooper died at his home in Cumberland February 11.

Dr Burger, the venerable physician of Lisbon, died suddenly February 1, of paralysis.

W. H. Andrews, of Marysville, aged 65 years, died February 13 after a long illness of diabetes.

Gustave A. Bruhl, of Cincinnati, aged 76 years, succumbed suddenly to apoplexy February 16.

L. S. Drake, of Magnetic Springs, one of the foremost physicians of the county, died February 25, of cerebral congestion. He was 65 years of age.

L. H. Gratiguy, one of the most prominent physicians of Cincinnati, died March 7 at the age of 62 years. Cerebral hemorrhage is given as the cause of death.

Resolutions Adopted by the Montgomery County
Medical Society, March 7, 1903

Whereas—It is a lamentable fact that the crime of abortion is frequently committed, and very often by physicians, and conviction of the guilty ones in our courts of justice is all but impossible: Therefore be it

Resolved—That this Society heartily commends the recent action of the Ohio State Board of Medical Registration and Examination in revoking the licenses of two physicians who were found guilty of attempting to produce an abortion. And be it further

Resolved—That we urge the Board to use its power of revoking the license of any physician, or midwife, arrested for committing or attempting to commit abortion where, after a careful and searching examination, it has thoroughly satisfied itself of the guilt of the accused. Be it also

Resolved—That we request the Coroner of this County when a physician or midwife has been arrested for producing, or attempting to produce an abortion, and the evidence adduced is sufficient to establish the guilt of the accused but insufficient to convict him (or her) in Court, to place such evidence at the disposal of the Board of Censors of this Society, which Board shall determine what further action shall be taken.

Introduced by Horace Bonner.

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Remarks on the Lymphatic System

BY C. A. HAMANN, M. D., CLEVELAND

In this paper it is my purpose to consider some anatomic questions in regard to the lymphatic system and to allude to a few practical clinical deductions that can be made, and to certain affections of the absorbent system.

The study of the anatomy of the lymphatics is a very difficult one. Comparatively few anatomists have taken it up. What one finds in text-books has been handed down from the investigations of Cruikshank, Hewson, Mascagni, Teichmann, and, above all others, Sappey. The last-named author's work remains as the chief source of information concerning the anatomy of the lymphatics, and the illustrations of preparations made by him are copied in most text-books, or at least are used as the basis upon which more or less diagrammatic figures are constructed.

The injection of lymph-vessels is very hard to accomplish. Mercury was the material used by Sappey. I have from time to time attempted it, but have not as yet succeeded in getting satisfactory preparations. Gerota's method has so far failed in my hands, due, no doubt, to lack of experience and practice.

Leaf has more recently recommended that the cadaver be injected with formalin, a large amount of fluid being used, that is to say, the cadaver is injected a number of times in succession so that the tissue becomes edematous. In cadavers prepared in this way it is not hard to find and to work out the larger lymph-channels in the groin and axilla, and I have been able to demonstrate the anatomy of the lymphatics of

these regions fairly well by this method. When we come to determine the destination of the lymphatics of a given organ or part, however, the difficulties increase. It is important to bear in mind that there is an extremely free communication between lymph channels and that the glands also intercommunicate; further, that there are many individual variations, so that when we attempt to draw clinical deductions from anatomic facts we should be very cautious. For instance, in case of carcinoma of a given organ or part we expect the regional glands to become involved, but owing to the free anastomoses of lymphatics, to their variability, to the communications between the glands, and, I may add, to the fact that the destination of the lymphatics of many parts is not accurately known, we are apt to fall into error, and we must depend upon actual examination by dissection during operation, or at the postmortem, if we wish to determine what lymph-glands usually become involved in cancer in a given locality.

The frequent anastomosis of lymph-channels serves in part to account for the absence of edema of the part drained by glands which were removed. For instance, it is very rare to see obstruction to the flow of lymph and edema of the arm after the radical operation for cancer of the breast. When one considers that in this operation all the glands in the axilla and the periglandular fat are removed, and of course large lymph-vessels divided, it is hard to see why there is not in all cases a profuse flow of lymph, and after the healing of the wound an edema from obliteration of lymph-channels. To further explain the absence of this edema and lymph stasis we may adduce some other anatomic facts. One of these is the communications which exist between veins and lymphatics (these communications will be alluded to more in detail later on). A second is the regeneration of lymph-vessels and of glands. This has been studied by Bayer, whose excellent papers (*Prager Ztschr. f. Heilkunde*, Bd. VI. p. 105, and *Arch. f. Klin. Chir.*, Bd. 49, p. 637) on this subject will bear careful perusal.

A locality from which glands are often removed is the groin. The necessity for operation arises in the involvement of the glands in cases of chancroids and gonorrhea. It but rarely happens that lymph stasis in the external genitals, or in the lower extremities, follows complete extirpation of these glands for suppurative processes in them. On the contrary the results of the operation are usually eminently satisfactory; the cure is more rapid than if the abscesses are merely opened, for the entire mass can be removed, the wound sutured and primary union obtained. In numerous

cases I have seen healing without suppuration even when pus got into the wound. In these cases there is often marked periadenitis, and complete removal of the affected tissues is difficult or impossible. Adhesions to the veins render the operation serious, and I have known death to follow a wound of the femoral vein. In the groin the lymphatics of one side communicate with those of the other, and at times a large vessel from the penis may be seen to decussate, as it were, with its fellow.

In three instances I found several glands fused into a large flat mass on the surface of which was a groove in which lay the long saphenous vein. In one case the large vein, the internal femoral cutaneous, passed through the glandular mass, being completely imbedded in it. The large lymphatics which drain the lower extremity, external genitalia, buttocks, anal region, perineum and lower abdominal wall, pass through the femoral canal; I have usually found from five to eight of these large lymph-vessels in the femoral canal. In two instances I found one or two lymph-vessels passing up on the outer side of the common femoral artery, and lying upon the *fascia lata* which they pierce just below Poupart's ligament and then course along the external iliac vessels. In the illustrations and descriptions of the inguinal lymphatics I have not noticed a reference to these last-named channels.

The glands are imbedded throughout the body in a considerable amount of fat; the importance of this periglandular fat will be referred to again.

In the great majority of cases in which the inguinal glands are extirpated, even if both sides are operated upon, no lymph-stasis and elephantiasis result. Occasionally, however, these unfortunate sequels occur. I have seen them in three instances. What are the clinical phenomena which manifest themselves in these cases?

At a period varying from a few days to several weeks from the time of operation, the penis and scrotum (for it is usually the male sex in which the affection occurs) become swollen. There is a rather firm edema of the parts, a sensation of fulness, and distension is complained of by the patient, and there is at times slight redness accompanied by itching and pain. The swelling may or may not subside. It is followed by other attacks, often accompanied by fever. These repeated inflammatory attacks, in which there is perhaps a reticular lymphangitis, are, as is well known, seen in cases of elephantiasis of the extremities. They resemble erysipelas, but their relation to this disease has not been

clearly determined. As in elephantiasis of the extremities, each succeeding attack leaves the parts more hypertrophied. The connective tissue increases in amount owing to the lymph-stasis and thrombosis of the vessels and consequent hypernutrition of the tissues. Thus gradually a condition of elephantiasis develops.

In some cases these inflammatory attacks do not occur, but there is a gradually increasing edema and overgrowth of the subcutaneous connective tissue. Dilated lymph-vessels (lymphangiectasis) and lymphorrhea may be met with.

References to these cases of lymphatic obstruction after gland extirpation in the groin are rare in surgical literature. Lauenstein (*Deutsche Ztschr. f. Chir.*, Bd. 35, p. 573) reports 183 operations, but he does not mention the fact that he encountered these sequels. Riedel (*Arch. f. Klin. Chir.*, Bd. 74, p. 216) records two cases, both males, and the distressing consequences of the operation caused him to abandon the procedure and to substitute for it incisions and curetting. In Esmarch's and Kulenkampf's extensive work on elephantiasis are found numerous cases of elephantiasis of the lower extremities and genitalia associated with glandular inflammations, but none that were consecutive upon operations for the removal of the glands. I am confident however that the cases are not so rare as would seem, and an extensive inquiry among experienced surgeons would doubtless show that the complication is frequent enough to merit consideration when the operation is contemplated.

Bayer (*Prager Ztschr. f. Heilkunde*, Bd. 6, p. 105 and *Arch. f. Klin. Chir.*, Bd. 49, p. 367) brings out some very interesting and important facts in regard to the regeneration of lymph-glands which have a bearing upon the subject.

He points out that all lymph-glands are normally surrounded by adipose tissue which forms a covering for them; usually a more or less distinct though thin connective-tissue lamina invests this periglandular fat. This periglandular fat and areolar tissue contain an extensive system of lymph-spaces and may be looked upon as a part of the lymphatic system. In this tissue regeneration of glands and vessels occurs. Bayer showed this both experimentally as well as by the examination of cases in which there had been a new formation of glands, as in secondary carcinoma. I shall not detain you by describing in detail the histologic proofs of these statements, but shall give the conclusions at which Bayer arrives:

(1) After extirpation of lymph-glands there occurs a regeneration of the same under certain circumstances.

(2) If regeneration does not occur it is likely that the lymph flow is established through collateral channels.

(3) The formation of new glands occurs within a relatively short time (three to six weeks).

(4) Regeneration is influenced by the mode of healing of the wound.

(5) The newly-formed glands develop in the fatty tissue. If, at the time of the operation this fatty tissue is removed, or if extensive suppuration leads to its destruction, or if repeated erysipelatous attacks occur, which lead to an obliteration of lymph-spaces, this regeneration is materially interfered with, and the consequences above described may result. On the contrary, if the fat is not removed and if primary union is secured, the circumstances are favorable for regeneration.

Hence Bayer advises that the fatty tissue, or part of it be allowed to remain if possible, and that every effort should be made to secure primary union of the wound.

The valuable observations of Professor Bayer are worthy of being borne in mind by the surgeon, though in many cases it will be impossible to leave the fat and to secure primary union. Prolonged suppuration must necessarily occur at times.

We cannot tell in any given case whether lymph-stasis and elephantiasis are going to occur or not. In some cases the conditions for its development are most favorable, yet no trouble results; in others there may be edema when we least expect it.

The treatment of the condition when once developed is very unsatisfactory. There is nothing that can be done to reestablish the lymph-channels. Excision of parts of the hypertrophied skin and fascia affords about the only relief that we have to offer.

In one case which occurred four years ago, I observed an interesting and, as far as I know, unique sequel of an operation for the radical cure of femoral hernia, namely, lymphangitis and edema of the *labium majus*. During the operation there was necessarily considerable disturbance of the abundant loose fat about the saphenous opening; part of the fat and perhaps three or four lymph-glands were removed. The wound healed by first intention in about 10 days.

About three weeks after the patient got up, she had an attack characterized by chilly sensations, fever (102°F.), and by a painful swelling of the right *labium majus* and the area about the lower end of the inguinal canal. The wound and the tissues about it were not involved. Under the use of hot poultices the attack subsided in three or four days. She afterward had seven or eight similar attacks coming on at intervals without apparent cause.

In each attack there was a brawny induration of the parts, which did not pit upon pressure, redness of the skin, with itching and pain, usually accompanied in the beginning by fever and chilly sensations. No suppuration ever occurred. The last attacks were less severe than the first. There are now no traces of lymphedema or elephantiasis. The *labium minus* was not involved at any time. The inflammatory attacks bore no relation to the menstrual period. No abrasions affording access to microorganisms were seen.

I regarded the case as one of lymphangitis, accompanied by lymphatic edema, due to the interference in the lymph-flow produced by the removal of the glands and fat, and by the cicatricial contraction.

But why should these attacks come on in this case, in which so few glands were removed, and no suppuration occurred, while complete extirpation of the inguinal glands, even upon both sides, is so seldom followed by like consequences?

The patient was of course greatly annoyed by the repeated inflammations, and anxiously inquired as to the ultimate outcome. I told her that an elephantiasis of the vulva might result and that there was no way of preventing it. Fortunately this did not develop. She was told to massage the parts in the intervals between attacks.

This sequel of an operation for femoral hernia was quite unknown to me, and in a quite extensive search of the literature I have failed to find similar cases. Upon inquiry among surgical colleagues I heard of no such complications.

To be sure it is not a very serious occurrence, yet it is quite annoying to both patient and surgeon to have such a condition follow, particularly if elephantiasis of the genitalia were to result.

In operating for the radical cure of femoral hernia I do not see how one can avoid removing some of the saphenous glands, and some of the loose fatty tissue which is usually so abundant about the saphenous opening; the sac of a femoral hernia is nearly always surrounded by more or less fat, and in order to thoroughly expose Poupart's ligament and the *fascia lata*, prior to the introduction of sutures, considerable dissection must be done.

The obliteration of the femoral canal that is sought to be accomplished in the Bassini method, must narrow or close the lumen of the large lymph-trunks, some six or eight in number, that pass through it, yet I have never heard of edema being pro-

duced as a result. It is remarkable that removal of lymph-glands by operation, or by suppurative processes, and the obliteration of large lymph-vessels, comparatively seldom gives rise to interference with the return flow. In my case the glands removed were part of the saphenous group and also perhaps the inner glands of the horizontal inguinal group. These are the ones that receive the lymphatics from the external genitals and consequently one might expect lymph-stasis after their removal.

Unusual localities of lymph-glands: In disease the normal number of lymph-glands may be greatly increased, as is seen, for instance, in tuberculosis. Occasionally one finds lymph-glands in unusual situations. Thus I have several times found one or two glands in the median line of the neck, lying on the thyroid cartilage. In the groove between the deltoid and *pectoralis major* there may be two or three; in one case I found them considerably enlarged. Last fall I removed three tubercular glands from the dorsum of the scapula below the spine, a locality in which, as far as I know, lymph-glands *have never been seen*.

Palpation of the epitrochlear gland: This gland is nearly always felt for in cases of syphilis, and some reliance is placed upon the ability to palpate it, as affording evidence of syphilis. Dietrich (*Inaug. Dissert. Erlangen, 1886*) examined 439 healthy persons and was able to feel this gland in four-fifths of them; in 50 cases of secondary syphilis the proportion of palpable epitrochlear glands was 8% less. Cabot (*Philadelphia Medical Journal*, April 8, 1899) also states that epitrochlear adenitis is of no importance in the diagnosis of syphilis.

Superficial inguinal glands can, according to Dietrich, be felt in nine-tenths of all healthy persons. They vary in size from that of a pea to that of a navy bean.

The submaxillary lymph-glands present a peculiarity that is worthy of mention. Several of them may lie very close to the periosteum of the lower jaw; indeed they may be adherent to it. If these glands become inflamed, or when they become the seat of metastatic deposits in case of cancer, the lower jaw seems to be thickened and one may gain the impression that the bone is enlarged and thickened or the seat of a neoplasm.

Nodules of lymphatic tissue may occur in the substance of the submaxillary salivary gland. The involvement of these intra-glandular lymph-nodes in carcinoma would necessitate *the removal* of the salivary gland.

Gelsner (*Arch. f. Klin. Chir.*, 1901, *Heft. I*, p. 134) has advanced the theory that the lymph-glands aid in the circulation

of the lymph in that they act as contractile organs; by virtue of the muscular fibers in the capsule they would be able to do this. Their uniform shape and the fact that the efferent vessels enter the convex border and the afferent vessels leave at the hilum would seem to favor this view.

Communications between lymphatics and veins: The existence of communications between veins and lymphatics has from time to time been asserted by numerous reliable observers. Among others may be mentioned Nuhn, Stenson, Verneuil and Meckel. Lippi, in 1825, was the first to state that such communications were to be found between the portal, renal, inferior cava, internal jugular and azygos veins. Macalister also affirms the existence of communications of lymph-channels with the posterior tibial and internal iliac veins. More recently Leaf (*Lancet*, March 3, 1900) has devoted considerable attention to this subject.

He has demonstrated anastomoses between the lymphatics and veins in the inguinal region, posterior mediastinum and elsewhere. Arteries also communicate with lymph-glands, according to Leaf. Boddaert has demonstrated lymphaticovenous anastomoses, and their existence is now beyond question. Leaf suggests that metastasis of carcinoma, which ordinarily takes place through lymphatics, may occur through the veins, by way of these communications, and that metastasis of sarcoma, which ordinarily takes place through the veins, may occur through the lymphatics.

After accidental division of the thoracic duct, which has occasionally occurred in operations in the lower part of the neck, it is rare that any trouble results, either from a fistula or from malnutrition from failure of the chyle to enter the circulation. For this there are several explanations:

1. The opening in the duct may close without obliteration of its lumen.

2. The thoracic duct often presents anomalies in that it is double at the point where it enters the subclavian or internal jugular vein, or there are several openings.

3. The anastomoses of veins in the posterior mediastinum may serve as channels through which the chyle enters the blood.

Many years ago, v. Recklinghausen affirmed the existence of openings between the endothelial cells of the peritoneum. He stated that these stomata were the beginnings of lymph-channels. It has now been shown that such stomata do not exist; they were artefacts. Bizzozero, Ussow, Muscatello, and others have demonstrated this. I call attention to this fact because in many text-books these stomata are still described and many physicians have not had the researches of Bizzozero and others brought to their attention.

Some Freaks in Surgery of the Gall-Bladder and Bile-Ducts, with Report of Cases and Exhibition of Specimens

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In treating this much-mooted subject, the question, as to whether medical or surgical treatment is indicated, presents itself. This is a question of vital interest and can be answered by the physician as well as by the surgeon, for I believe that the method employed by many physicians of attempting to drive the gall-stones through the narrow passages into the intestinal canal is more dangerous than that of the surgeon who takes them out through an abdominal incision.

We must bear in mind that in inflammatory processes of the gall-bladder, with or without jaundice, or whether the paroxysms are frequent or remote, severe or mild, pain is not always to be regarded as a safe index to the severity of the pathologic processes often existing.

My object therefore, in presenting this paper before this Society, is to argue for an early operation in all cases of cholelithiasis.

Many are the theories advanced as to the cause of gall-stones but these I shall not discuss, other than to say that I believe the theory of bacterial origin to be the correct one. To understand intelligently the different forms of cholelithiasis, a classification according to the pathologic conditions is necessary. First is the class of cases where stones are found in the gall-bladder, with open cystic duct and without adhesions; second, is the same as the first but with adhesions; and, third, with the cystic duct closed, either by stones or inflammation, which may be serous, purulent or gangrenous according to the degree of infection, and accompanied by either regional or diffuse peritonitis, which may be acute or chronic.

Regional peritonitis results in cholecystitis with or without an exudate, and from this condition adhesions between the gall-bladder and omentum, or between the intestine and stomach, may follow, or perforation into the stomach or intestines, and sometimes even externally, may occur. Stones in the common or hepatic duct may cause acute or chronic obstructions of these passages. Inflammation of these ducts is essentially the same as

that of the gall-bladder, but is more likely to be followed by diffuse cholangitis, thrombophlebitis, abscess of the liver or pyemia.

The symptoms in cholelithiasis vary in their severity and degree as well as in the nature of the pain. Usually gall-stones cause two entirely different sets of symptoms, depending on their location, whether situated in the gall-bladder and cystic duct or in the common or hepatic ducts. When located in the gall-bladder or cystic duct they give rise to painful contractions and enlargement of the gall-bladder, which, in time, becomes chronically inflamed, its walls thickened and contracted and often ulcerated. This condition is apt to result in regional peritonitis and adhesions, and, if the infection be a virulent one, may cause an acute phlegmon and even gangrene, with diffuse peritonitis and death.

The usual history of these cases is of occasional attacks of pain and tenderness in the region of the gall-bladder accompanied by nausea and vomiting and with or without jaundice.

When stones are located in the hepatic or common duct, the important functions of the liver are threatened, and the symptoms may become more serious. In these cases the flow of bile is apt to be obstructed, giving rise to obstructive jaundice; if it is of long duration, it offers a serious obstacle to operative interference as well as endangering the life of the patient.

These cases are at times fulminating in type and resemble fulminant appendicitis so closely that it is often difficult to differentiate between them. However, if we bear in mind this one important fact, that general peritonitis which is the usual accompaniment of fulminating appendicitis is unusual in diseases of the gall-bladder, we shall not be far from right, as in either case an operation should be done. I believe that it is far better to open an abdomen and find nothing seriously wrong than to do so later on in an attack and find an irremediable condition of affairs. In a great many of these cases the time which elapses between the beginning of an attack of fulminating obstructive jaundice, and its fatal termination is but a few days and often even a few hours, and even within this short space of time it is not unusual to find gangrenous destruction of the gall-bladder and bile-ducts, and especially of the duodenum and liver. In view of these facts, it seems to me that the only logical deduction to be made is that early operation, not only in the acute exacerbation but in the early stages of the disease itself, offers the best safeguard against the destructive possibilities of a cholelithiasis.

Let me also call your attention to the relation between gall-stone colic and acute and chronic pancreatitis. Clinically many cases of acute and chronic pancreatitis give typical histories of gall-stone colic with and without jaundice, and yet on operation we find no stones in the gall-bladder or its ducts, but an indurated pancreas, with dark, thick, inspissated bile in the gall-bladder. These cases are always relieved by cholecystostomy.

I will now call your attention to a few individual cases.

Case I: Mrs W. aged 38, married, no children, had always enjoyed comparatively good health, except that she was occasionally troubled with attacks of gall-stone colic which began about eight years ago, varying considerably as to frequency, although during the past two years she had had several attacks. When preparing to attend a funeral one day she experienced some pain in the epigastric and right hypochondriac regions. As a precaution against further pain she filled a rubber hot-water bag and applied it over the seat of pain and entered her carriage. On the way to the church, which was some distance, the pain steadily increased in severity and was soon accompanied with vomiting. Reaching the church her condition was found to be such that she was unable to leave the carriage, so she was taken to her home. As the pain and vomiting continued, the physician who had attended her during her previous attacks was summoned, and although the remedies which had usually given relief were applied, such as hypodermics of morphin, calomel, saline cathartics, hot fomentations, and high rectal enemas, the pain was but slightly ameliorated. The vomiting continued, and on the third day of her illness no satisfactory movement of the bowel was obtained. The physician on looking over her abdomen observed a small mass in the left inguinal region in which there was no pain or tenderness on manipulation. The patient insisted that she had had this small swelling for five years. On the morning of the fifth day of her illness I saw her in consultation. She was then vomiting every 10 minutes. The vomited matter was stercoracious in character and of a strong fecal odor. On palpating the abdomen no tenderness or pain was elicited, except in the right hypochondriac and epigastric regions. There the muscles were rigid and she was tympanitic to an extreme degree, and extremely jaundiced with a pinched and drawn countenance, and a pulse of 130.

A diagnosis was made of a strangulated inguinal hernia caused by extreme vomiting, which was induced by an impacted gall-stone. Within two hours from the time I first saw her, she was in the operating-room of St. Clair Hospital. An incision was rapidly made over the inguinal mass and a knuckle of strangulated bowel was released. The wound was then closed by the Bassini method. Another incision was next made at the outer border of the right rectus muscle into the peritoneal cavity. The liver was found to be greatly enlarged and the gall-bladder was distended and thickened. Adhesions between the gall-bladder and contiguous tissues were separated. No stone could

be felt in the gall-bladder, but on passing the finger through the foramen of Winslow a stone was disclosed, about three-fourths of an inch long and as large as my finger in circumference. The stone could not be moved. After packing off the peritoneal cavity with wet hot sterile gauze and laying a fold of the same material over and around the gall-bladder, my assistant was instructed to make slight pressure on the gall-bladder, having in mind the idea that if a rubber bulb with tube attached be filled with water and the end of the tube closed, pressure on the bulb will dilate the tube in proportion to the amount of pressure employed. To my surprise and gratification the stone became movable and by this repeated pressure and milking process the stone was pushed into the cystic duct, whence finally it was removed by forceps after opening the gall-bladder. The gall-bladder was attached to the peritoneum and drainage was used for 12 days. The fistula closed in six weeks. The specimen here exhibited shows some peculiarities in shape and roughness.

Case II: Mr G. aged 35, married, father of two children, for some years had complained of pain in the epigastric region. While suffering with supposed attacks of gall-stone colic, I saw him three times within one year in consultation with his physician. These attacks were typical in character, *vis.*, sudden pain in right hypochondriac and epigastric regions accompanied by severe vomiting, and in the last year each attack was followed by a slight jaundice. The pain was severe and could be relieved only by large doses of morphin hypodermically. He had been told repeatedly that an operation was the only way to obtain relief, but he demurred, until a few days after his last attack.

An incision was made at the outer border of the right rectus muscle. On opening the peritoneal cavity a large, tense and distended gall-bladder was exposed directly beneath the line of incision. Its surface was smooth and there were no adhesions. On palpation of the gall-bladder and bile-ducts I failed to find any gall-stones. Two guy threads were introduced into the fundus, and the peritoneal cavity was thoroughly packed off with sterile gauze. A large aspirating needle was introduced into the gall-bladder and its contents evacuated. This I believe to be much safer than a primary incision. The gall-bladder was then drawn up taut to prevent angulation and stitched to the parietal peritoneum, and an incision was made into its fundus through which a drainage tube was introduced which was allowed to remain 10 days. The fistula closed in four weeks. It is my belief that the colic in this case was due to a contraction of the gall-bladder in an effort to empty itself, and that the obstruction was induced by angulation in a large and flabby gall-bladder, as he has had no pain since the operation.

Case III: Mrs M. aged 23, married four years with no children, had typhoid fever five years ago. About four years ago she first began having severe pain in the right hypochon-

drium accompanied by vomiting. These paroxysms came once a month and lasted a few hours. For about a year this condition of things lasted, when she says these paroxysms of pain came on every three or four months. In July, 1900, she had a very severe attack of a similar nature, which was followed by jaundice lasting some two or three weeks. In September, 1900, she had another attack of pain and vomiting which lasted several hours. As in the previous case this attack was followed by jaundice which continued about three weeks. From this time on she has had more or less pain in the right hypochondrium.

In February, 1901, she was seized with another severe attack of pain and vomiting, and from then until the time of operation she had constant pain in the right hypochondriac and epigastric regions, with occasional vomiting. On February 19 an incision was made at the outer border of the right rectus muscle. On entering the peritoneal cavity no gall-bladder could be seen or felt on account of the adhesion of the transverse colon and omentum. After separating these adhesions the gall-bladder was found to be small and contracted and deep under the liver. It was found impossible even to bring it up to within two and one-half inches of the abdominal wound. A vertical incision was then made on either side of the gall-bladder, one-eighth inch from its place of attachment to the liver, down to the cystic duct. The gall-bladder was then dissected off from the liver. A circular incision through the peritoneum to the mucosa of the gall-bladder was made. A cuff formed of the peritoneal coat and the mucosa was cut off. The peritoneal coat was invaginated and closed by two rows of fine catgut suture. In this way the entire gall-bladder was removed. The specimens here shown show that the gall-bladder was firmly contracted. The stones are of very irregular shape and all are faceted on several sides. My reasons for performing cholecystectomy in this class of cases is, I think, a plausible one. I believe that it is the experience of most surgeons, if not quite all who have done work along this line, that the small gall-bladder firmly contracted on stones is liable to subsequent attacks of recurrent regional peritonitis after the removal of the external drainage. The thickened walls of the gall-bladder continue to contract, interfering with the drainage through the ducts from the islands of mucous membrane not previously destroyed, and a condition results that in many respects resembles a chronic appendicitis.

Case IV: Mrs S. aged 41, married, mother of four children, had always enjoyed good health up to within six weeks before operation, save on two occasions when she had had attacks of pain which her physician had thought to be gall-stone colic. I saw her in consultation a few days previous to the operation, and she had then been in bed on and off for six weeks. At that time her temperature ranged from 100° to 103°, she was in constant pain, had occasional chills, and loss of appetite, accompanied by vomiting and extreme tenderness with rigidity of the

muscles in the right hypochondriac and epigastric regions. On the evening before the operation, which occurred in February, 1901, she had a temperature of 104° and a pulse of 120, was severely jaundiced, and suffered great pain and occasional vomiting. An incision was made at the outer border of the right rectus muscle, and the peritoneal cavity was opened. No gall-bladder was visible; nothing but a mass of adhesions could be seen. The omentum, intestine, liver and stomach, all seemed to be one mass. After separating the liver from its contiguous organs, which took considerable time, a diligent search failed to locate a gall-bladder. In the fossa to the right of the longitudinal fissure in which lies the gall-bladder, a mass of fibrous-looking tissue could be seen and felt, but there was no vestige of a gall-bladder. On passing the finger through the foramen of Winslow down along the common duct to the head of the pancreas, where it passes through, a small mass was felt, not in the duct, but in the head of the pancreas. On palpating this mass with the finger it was hard and seemed indurated. This I immediately decided to be a malignant growth of the pancreas. The peritoneal cavity was thoroughly irrigated with normal saline solution, a gauze drain was introduced, and the wound was closed up to the drainage tube. That evening her temperature dropped to 102° , and her pulse to 100, and to my surprise she made an uninterrupted recovery. She has not had any pain or trouble since. This case I am fully satisfied was one in which a benign transitory swelling of the pancreas caused sufficient pressure to obstruct the common duct and clinically gave a typical history of gall-stone colic.

Case V: Mr B. aged 32, single, family history negative, told of having frequently suffered pain in the epigastric region during a period of six years. For a long time he had received treatment for dyspepsia, and during the last year these paroxysms were more frequent and so severe that for the last four months he was obliged to remain at home a few days every two weeks owing to an attack. There was no vomiting, the bowels were constipated, and the patient was thin and emaciated. Each attack was followed by slight icterus of the skin and sclera. Palpation showed rigidity of the muscles with extreme sensitiveness over the right hypochondriac and epigastric regions. A diagnosis of gall-stones with regional peritonitis was made. An incision was made at the right *linea semilunaris*, and the peritoneal cavity was opened, showing the gall-bladder, which was small and very much thickened with adhesions to the omentum and transverse colon. The adhesions having been separated and the peritoneal cavity packed off, palpation of the gall-bladder revealed no stones, but it seemed to be filled with a thick gelatinous mass. Two guy threads were now introduced into the fundus of the gall-bladder, the better to hold it, and an incision into the gall-bladder revealed, as was anticipated, a thick, white, jelly-like substance. At the junction of the gall-bladder and cystic duct a complete diaphragm existed,

which separated entirely the cavity of the gall-bladder from the cystic duct. On passing the finger down along the cystic duct a pouch or diverticulum was found filled with gall-stones. The diaphragm was excised and 57 gallstones were removed with forceps.

Case VI: Mrs R. aged 20, married, mother of one child two months old, had good health except an occasional pain in the epigastric region. Ten days previous to operation she was seized with extreme pain in right hypochondriac and epigastric regions, radiating down the right side into the iliac fossa. This was accompanied by severe vomiting. Her physician was obliged to give from one-half to one grain of morphin hypodermically before relief came. These paroxysms occurred every 24 hours for seven days, during which period she retained nothing in her stomach. At each paroxysm a tumor or mass became visible, extending from the liver down into the right iliac region, which could be detected by palpation as well as by actual inspection, and which would disappear as soon as the morphin relieved the pain. On palpation there was extreme tenderness with marked rigidity of the muscles over the epigastric and upper and lower quadrants of the right side. On the day of operation, June 17, the patient was emaciated, with slight icterus of skin and sclera. Her temperature was 101° and pulse 94. An incision was made at the outer border of the right rectus muscle, and the peritoneal cavity was opened, revealing an enormously large and distended gall-bladder, which lay beneath the line of incision. Although the incision was three inches in length, it was found impossible to bring the gall-bladder up through it, owing to its great size and adhesions. The wound, therefore, was enlarged downward and the gall-bladder was brought up through the abdominal opening, the gall-bladder protruding two inches above the surface of the abdominal wall. On palpation no stones could be found in the gall-bladder, but on passing the finger down along the cystic duct a small pouch filled with stones could be felt. The peritoneal cavity was packed off with gauze, and the gall-bladder was sutured to the parietal peritoneum. Its contents, a thick mucopurulent fluid, was aspirated, a free incision was made into it, and 37 stones were removed (which are here shown). After ascertaining that the cystic and common ducts were patulous, a circular incision through the serosa to the mucosa of the gall-bladder was made, the mucous membrane dissected down to the attachment of the gall-bladder to the parietal peritoneum, and cut off. The serous coat was invaginated, a rubber drainage-tube was inserted, and the gall-bladder was closed by two rows of Lembert sutures to the drainage tube. The tube was allowed to remain 10 days, and the opening closed in four weeks.

Case VII: Mrs. S. aged 45, married, mother of one child, had always enjoyed good health. Six years ago she had an

attack of supposed gall-stone colic followed by slight icterus of the skin, but had had no subsequent trouble until July 13 of this year, when she was suddenly taken with a severe chill and slight pain in the right hypochondriac and epigastric regions. Within 15 days she had 14 chills, and these occurred between 10 and 11 o'clock a. m. There was but slight rise in the temperature and pulse-rate, and no vomiting, but the bowels were constipated. A diagnosis of malarial fever was made. On August 5 she was taken with severe pain. I saw her in consultation about noon and again late that evening. She was extremely tender over the right upper quadrant of the abdomen, had occasional spells of vomiting, and was suffering such intense pain that large doses of morphin gave but slight relief. On the following day she was taken to the hospital, where on August 7 she was operated upon. The incision was made at the junction of the ninth costal cartilage. On opening the peritoneal cavity the gall-bladder was found to be small and very much thickened and tense. After separating some omental adhesions, guy threads were introduced into the fundus of the gall-bladder and the peritoneal cavity was well packed off. A large aspirating needle was introduced, and as much of the pus as would flow through the needle was drawn off. The gall-bladder was then incised and wiped out with sterile gauze, and from the lower portion of the gall-bladder and cystic duct 97 gallstones were removed. I believe that this is a case where cholecystectomy should have been done, but owing to the poor condition of the patient it was not deemed advisable to prolong the operation.

Case VIII: Mr K., aged 41, married, by occupation a wire weaver, four years ago was taken with severe pain in the right upper quadrant of the abdomen. These attacks of pain came on quite frequently, and were more severe during the first three years than latterly, although during the last four months they came on as often as four times in a week. While his appetite was good, he abstained from eating many times, because he feared his pain was the result of hearty eating. He had never lost a day's work on account of the attacks, although they came on as often during the day as at night. He had never vomited during an attack or after one; his bowels were constipated.

On the evening of November 21 he came to my office after his usual day's work complaining of pain in the epigastric region. On pressing over the outer border of the right rectus muscle I found rigidity of the muscles and some pain was elicited. From the history he had given, and from what I had learned on palpation, I concluded his to be a case of cholelithiasis. At nine o'clock that night he went to the hospital, and the next morning the operation was done. An incision was made at the junction of the ninth costal cartilage. On opening the peritoneal cavity the liver was found to be large and the gall-bladder was contracted and high up behind it, with

adhesions to the transverse colon and omentum. The adhesions were separated, yet it was difficult to bring the gall-bladder up to the line of incision. When finally it could be palpated, no stones were found, but they could be felt in the cystic duct. After packing off the peritoneum with sterile gauze, two guy threads were introduced into the fundus of the gall-bladder, and by aspiration one and one-half ounces of a thick, dark, mucoid substance were removed. Then the gall-bladder was incised and 362 gall-stones were removed (which I here show you). The gall-bladder was stitched to the parietal peritoneum, a drainage-tube was introduced, and the abdominal wound was closed in the usual way.

Case IX: Mrs W. aged 55, widow, had for 15 years suffered with severe paroxysms of pain in the right hypochondriac and epigastric regions, pain having been almost constant during the last six months. There was severe vomiting, the bowels were obstinately constipated, and the patient had a poor appetite. She had been confined to her bed or couch for six weeks previous to October 8, on which date she was brought some 40 odd miles on a cot to the hospital. Inspection showed her to be a corpulent and obese subject with well-marked icterus of skin and sclera, while palpation showed extreme tenderness over the gall-bladder and epigastric regions. She had a rapid pulse, was tympanitic, with rigidity of the abdominal muscles. On the same day an incision was made at the outer border of the right rectus muscle. On entering the peritoneal cavity the liver was found to be very large and the gall-bladder firmly contracted and high up, with an adherent omentum. It was with some difficulty that the liver could be raised sufficiently to give an ocular inspection of the gall-bladder.

After separating the adhesions and packing off the peritoneal cavity with sterile gauze, two guy threads were introduced, one on each side of the gall-bladder, and a crucial incision made through its fundus, from which with forceps a large calculus was removed which, two hours later, weighed 555 grains. In this case it was impossible to bring the gall-bladder up into the peritoneal wound. The guy threads were passed through the peritoneum in the form of a mattress stitch, gauze drainage was used outside and a rubber tube inside, and the gall-bladder and wound were closed up to the drainage as is usual in these cases.

All the cases here reported recovered with but one exception, Case IX, who died three days after the operation, with all the symptoms of cholemia.

Kehr, Mayo Robson, Richards, and W. J. Mayo, and many others, show by their statistics that the mortality in early operations in cholelithiasis is almost *nil*. The fact that a very large percentage of cases (90 to 100%) of primary cancer of the gall-bladder are associated with gall-stones, supports so strongly

the theory that gall-stone irritation produces primary cancer of the gall-bladder and liver, that Mayo Robson believes it ought to have great weight with us in advising early surgical treatment. This is certainly a logical view, and I believe that when the diagnosis has once been established, surgical treatment is indicated.

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Paralysis of the External Recti Muscles Appearing After a Blow on the Skull

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Case I: E. F., aged 25, American, presented himself at the ophthalmic out-patient department of the Cleveland General Hospital, February 27, 1899. He complained of seeing double and gave a history as follows: On February 11, or 16 days before the date of coming to the hospital, he had attempted to stop a fight between two men, and received from one of them a blow on the head in the region of the left occipitoparietal suture. He was unconscious for a few minutes, but later was able to walk to his home. There was no swelling caused by the blow, but the pain was so severe as to confine him to his bed for several days. As the pain began to diminish it seemed to pass along the left side of the head; it ceased the eighth day after the injury, and the patient then noticed that he saw double.

Examination showed that he had a paralysis of the left external rectus muscle, and that the left eye turned in to the extent of 45°. The patient was able, with an effort, to turn the left eye into almost the primary position, the right eye being covered, but the movement was very slow. Examination of the fundi with the ophthalmoscope showed the right fundus to be perfectly normal, while in the left the outline of the optic disc was somewhat hazy. This patient was under my observation for several months. The case terminated in complete recovery.

Case II: A. S., aged 42, German, was brought into the Cleveland General Hospital on February 24, 1901. He was what is commonly known as a "Weary Willie," and had been taking a free ride on the bumpers of a freight car on a train that was wrecked. He was severely injured, and when admitted to the hospital he showed all the symptoms of fracture of the base of the skull, resulting from a blow on the vertex. Five days after he was admitted, I saw him for the first time. Both eyes were converged, as had been noticed by the house surgeon when the patient was admitted, and he complained of diplopia and vertigo. He was

unable to bring either eye into the primary position, the other eye being covered, although he yet had some power in the external recti. The pupils were small and reacted to light stimulus. An ophthalmoscopic examination showed normal fundi. The patient remained in the hospital two months. At the end of that time the convergence and diplopia were still present. He refused operative interference. To prevent diplopia and vertigo he wore a patch over one eye, and in that condition left the hospital.

Case III: J. M., aged 45, an Austrian, was admitted to the Cleveland City Hospital on January 25, 1902. It was very difficult to get any history of this case, because of his inability to articulate distinctly. Several weeks before admittance to the hospital he received a blow on the top of the head from an ore or coal bucket. He was unconscious for several hours, and was confined to bed for over two weeks. When I saw him at the hospital his right eye was strongly converged, and the external rectus was apparently without any power. The convergence had been present since the day of injury. The pupil reacted to light. He complained of diplopia, and wore a shade over the eye. A satisfactory ophthalmoscopic examination could not be made. In this case the seventh and eighth nerves of the right side were also involved, as was evidenced by inability to completely close the lids of the right eye, pucker the lips, or articulate distinctly, and by deafness in the right ear, as shown by the tuning-fork. He remained in the hospital for two months. Operative interference was denied. Neither the ocular, lingual nor auditory condition showed marked improvement up to the time of his discharge.

Paralyses, such as reported, following a blow on the skull, are not so rare as might be supposed. The external rectus muscle, supplied by the sixth nerve, is the one most commonly affected, sometimes unilateral, as in Cases I and III, but not infrequently bilateral, as in Case II. Other cranial nerves are liable to involvement, those most commonly involved being the optic, fifth, seventh and eighth nerves. In Case I the optic nerve was involved, though only moderately. In Case III the seventh and eighth nerves were involved.

A study of the anatomy of the cerebral surface of the base of the skull and the relation of the cranial nerves, shows their proximity to the apex of the petrous portion of the temporal bone, through which fractures of the base usually extend, and their consequent liability to involvement. Tracing the fifth nerve we find, "The two roots of the nerve pass forward through an oval opening in the dura mater, on the superior border of the petrous portion of the temporal bone, above the internal auditory meatus; they then run between the bone and the dura

mater to the apex of the petrous portion of the temporal bone." The sixth nerve "pierces the dura mater on the basilar surface of the sphenoid bone, runs through a notch immediately below the posterior clinoid process, and enters the cavernous sinus." The seventh nerve "passes forward and outward upon the middle peduncle of the cerebellum, and enters the internal auditory meatus." The eighth nerve "passes forward across the posterior border of the middle peduncle of the cerebellum, in company with the facial nerve, and enters the internal auditory meatus." The last two nerves lie farther from the tip of the petrous portion than do the others, and yet they come within one cm. of the tip.

The third and fourth nerves have been reported as involved, but much less frequently than the optic, seventh or eighth, although their relation shows proximity to the tip. This infrequency, as compared to the other nerves, is accounted for by the fact that experiments have demonstrated that a fracture at the tip of the petrous portion frequently has fissures running into the optic canal, the body of the sphenoid bone, and tympanic cavity, thus the more frequently involving the optic, the seventh and eighth nerves.

Paralysis of the sixth nerve, due to fracture of the base, may exist without coma, or the usual symptoms of basal fractures being present. Such a paralysis is either primary, as in Cases II and III, or secondary, as in Case I, that is, it occurs either immediately after the injury or some days or weeks later. Primary paralysis is due to direct injury of the nerve by the fractured bone; while secondary paralysis is due to compression of the nerve by hemorrhage, inflammatory exudate, or the formation of callus. In primary paralysis the prognosis is unfavorable, only about 24% recovering. In secondary paralysis, however, when absorption of the hemorrhage, exudate or callus occurs, the muscle usually regains its usefulness. The period of disability varies with the character of the substance causing pressure, an exudate or blood-clot disappearing much more readily than a callus, the disappearance of the latter, as a rule, occupying many months.

Ulcus Ventriculi

BY HENRY C. LUCK, M. D., CLEVELAND

A great deal has been written upon gastric ulcer, and consequently I will not pretend to be original in all that I have to say upon the subject. Owing also to the fact that I am entitled to but ten minutes, I can but briefly go over the subject, giving a general resumé of what has been recently written, with an occasional report of a case.

DESCRIPTION

Gastric, or round ulcer of the stomach, was first described by Cruveilhier in 1829, and hence it is frequently referred to as Cruveilhier's disease. It consists of a destruction of the mucous membrane and occasionally involves the deeper structures in one or more parts of the stomach, with little regard for location, occurring most frequently upon the posterior surface. Further description would depend largely upon the cause or location, and might be referred to as a perforating, corrosive, hemorrhagic, cardiac, peptic, syphilitic, round, chronic or tubercular ulcer, the latter being very rare.

ETIOLOGY

Men and women seem to be affected alike. Different authors, however, vary greatly, some claiming that men are more susceptible than women, and others are of the opposite opinion. Von Sohlern states that in Russia the disease is very rare, owing to the fact that the inhabitants subsist almost entirely upon a vegetable diet. The same might be said of the inhabitants of the Roen mountains and the Bavarian Alps of Germany. Von Sohlern regarded this as important, as such a diet consists largely of potassium salts, and as the red blood-cells are to be regarded as the chief carriers of potassium; and he further claims that this increased amount of potassium represents the cause of the relative immunity from ulcer of the stomach.

Westphalen claims that great stress cannot be placed upon the immunity from ulcer as a result of a strict vegetable diet, but makes, however, a contradictory statement by saying that one out of every four of his Russian patients suffering from gastric disturbance had either a hyperacidity or a gastric ulcer. *Age* plays an important part, as it is practically a disease of middle life. *Occupation* also plays an etiologic rôle, as illustrated by the susceptibility of cobblers and tailors, on account of the cramped posi-

tion they assume, immediately after a heavy meal. Cooks are supposed to be prone to it, owing to the fact that they take into their stomachs hot and highly seasoned foods. Less than a year ago, I had for a patient a Miss M. R. 28 years of age (servant), who claimed that one day, soon after drinking some very hot tomato soup, she was stricken with a very severe pain in the pit of her stomach which went straight through to her back (using her expression) which continued for a long time (some weeks I judge). She was sent to me by her employer, who said that she would not eat, and they were alarmed for fear that she would die on their hands. Her excuse for not eating was that her stomach would pain her for hours afterwards, and commence while food was still retained in her mouth. She had no history of a hemorrhage; vomiting was occasional and hyperacid. Diagnosis of ulcer was made and she was placed on 20-grain doses of bismuth subnitrate every four hours, with equal parts of milk and lime water, and directed to roll from side to side so as to allow the bismuth to cling to all sides of the stomach. Other symptomatic treatment was carried out and all pain seemed to leave her in about eight to ten days.

Chemical irritation is frequently a contributing cause (arsenic). Porcelain and metal workers, mirror polishers, Bouveret states are particularly predisposed, owing to the amount of dust and foreign substances swallowed.

Along this line of cases was a Mr V. De. W., aged 44 years, a hard-wood finisher by occupation. The history that he gave was that of a gnawing and almost continuous pain in the epigastrium. Pain would vanish after *vomiting*, which occurred *only when he would induce it*. Pain always occurred immediately after eating. Rapid emaciation ensued; he became anemic, there was no evidence of hemorrhage. For a time I was debating in my own mind whether he had a carcinoma or not; he had become very much depressed on account of his loss of time from business, and also on account of a recent death in his family. I did not use a stomach pump, for the reason that I thought it was counter-indicated. I had an opportunity however one day to obtain a good specimen of the vomitus and found a hyperacid condition. I insisted upon absolute rest in his case and soft and predigested diet, milk and lime water, etc. Ice bags were kept over the epigastrium for nine days. Internal medicinal treatment consisted of large doses of bismuth subnitrat suspended in aqua chloroform, a saline cathartic every night and occasional doses of a *vegetable* pepsin. The third week he was allowed to sit up and the only medication he received then was peptonized iron and manganese in tablespoonful doses four times daily.

His recovery was complete in four weeks and has had no

recurrence. I believe in his case, the origin of the ulcer was an erosion caused by the swallowing of an immense amount of saw-dust and shellac, and that it ultimately terminated in an ulcer.

Leube has reported a case due to trauma. His patient had been pinioned against a wall by a wagon and held in that position for ten minutes, all pressure being over the epigastrium. From the time of accident the patient complained of pain in the stomach. A week later vomiting occurred and continued every afternoon for some time. Pain was localized, and particularly painful upon pressure and on lying on the left side. No blood appeared in vomitus. The patient recovered, and was treated for ulcer. Ritter, Potain, Bouveret, Ebstein report similar cases. Einhorn reports a case in a boy, who, while suffering from an attack of epilepsy, fell from a window on the first floor of the house into the yard striking the stone pavement with his abdomen; two hours after his fall, he suddenly vomited more than a pint of fresh blood, partly mixed with food. Six hours later about the same quantity of blood was again brought up. There was no pain on palpation in the gastric region. The boy was kept at absolute rest in bed for a few days and quickly recovered. Other predisposing causes of ulcer are chlorosis, anemia, alcohol and existing erosions.

DIAGNOSIS

As a rule symptoms manifest themselves gradually. Pain, vomiting and hemorrhage are the cardinal symptoms, but are not at all times obliging enough to be present. Many cases recover in spite of a diagnosis. Pain is generally present unless it be one of the rare cases, such as reported by Einhorn. Pain is referred to as dull, continuous and gnawing, and usually comes on soon after deglutition and then gradually disappears for a short time, then returns, and continues from one to three hours. Patients usually complain of pain in the dorsal region to the right or left of the spine corresponding to the eighth or ninth dorsal vertebrae, and simultaneously or independently they have as a rule a corresponding pain in the center of the epigastrium below the free extremity of the fusiform cartilage. The epigastric pain is increased on the slightest pressure (generally).

Vomitus tastes very acid. Hyperacidity is almost invariably present. The patient seldom vomits at night or early in the morning. As soon as vomiting is over, pain ceases. The patient may go along in this manner for a time and then get well, or he may suddenly be attacked by one or more gastric hemorrhages, followed by great prostration, exhaustion, weak rapid pulse, and pallor.

Vomitus may vary from a bright red to a coffee-ground-like substance. It usually is a bright red. Stools should be carefully watched when anemia appears, as hemorrhage may have taken place and go unnoticed. Tar-colored stools would indicate that a hemorrhage had taken place. Microscopic examination of the stomach contents in suspected ulcer is of little importance, and the introduction of a stomach-tube in these cases is accompanied with great danger to the life of the patient. Hemorrhage does not always take place and when it does it must be differential from pulmonary hemorrhage.

Hemmeter states that diagnosis becomes complete if the characteristic pain points are present, with prompt aggravation of pain soon after taking food, vomitus showing hyperacidity, hematemesis and history of chronic trouble.

DIFFERENTIAL DIAGNOSIS

Much could be said here but cholelithiasis, carcinoma, and traumatism are conditions to be thought of.

TREATMENT

Treatment is largely prophylactic. Diet is the most important factor. A milk diet seems to be the most efficient food. Emollient drinks, such as flax-seed tea, barley water, egg-albumen water, and olive oil in repeated small doses are useful, while bismuth in large doses has been a most popular remedy. When there is much pain, codein in combination with the bismuth, either suspended in solution or powder (never in capsules), and nitrate of silver .2 of 1% solution should be given. Daily evacuations should be insisted upon, with the assistance of a saline cathartic, *i. e.*, phosphate of soda in combination with sulphate of soda, Carlsbad salt, etc. Soft foods are given for a few days, then a carefully selected diet.

If hemorrhage occurs or has occurred, treatment is different, as now our patient is in a precarious condition. The patient's head should be lowered, and he is compelled to remain in the dorsal position absolutely. The stomach should also remain at absolute rest, and a total abstinence of all food by the mouth should be resorted to. Alimentation per rectum is only permissible in case the patient is anemic or weak. Ice-bags should be applied over the epigastrium. Hypodermic injections of aseptic ergot when the hemorrhage is persistent should be administered, and they are recommended by Ewald. Codein in sufficient dose may be employed if necessary to relieve pain.

Liquid feedings by mouth may be commenced on the third or fourth day such as milk and lime water, peptonized liquid beef,

peptonized milk, beef-tea, clam-broth, egg-albumen water, all at a temperature of 95-98° F. (I am speaking now of treatment after traumatism).

On the seventh day the patient may have cocoa, powdered malted cereal foods (prepared) of which there are many, yolks of egg, egg and milk, beef-juice, etc. The patient should be kept in bed through the second and third weeks, and the pulse should be carefully watched. Cardiac stimulants should be applied when indicated. A third-week patient may be allowed some semi-solid foods, *i. e.*, custards, zwieback and milk, oysters, sweetbreads, etc. Fourth-week patients may have scraped beef, and purée of vegetables which have been previously passed through a sieve. Care should be taken by the patient for some time to come. Foods should never be too hot or too cold and patients should be kept on a moderately strict diet for a year. In case of perforation, operation should be insisted upon immediately.

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Department of Therapeutics

CONDUCTED BY J. B. MCGEE, M. D.

Typhoid Fever: In the *Philadelphia Medical Journal* for April 11, J. K. P. Bowen advises the use of antipyretics in typhoid fever, and places the treatment under two heads, the physiologic and medicinal. The first comprises rest as an essential; maintain the horizontal position to save the heart strength, and do not endanger the intestines if complicated by congestion, hemorrhage or perforation. Cleanliness, plenty of pure air and light, cheerful and quiet surroundings should be secured as far as possible. Usually from one to three pints of buttermilk daily should be given, and plenty of pure water; warm sponge-baths with massage of the skin and muscles, hot water to the abdomen for pain, and cold packs for hyperpyrexia and delirium in some cases should be used. Concerning the medicinal treatment, no drugs should be used as a routine, except external antiseptics, for the mouth and nose, and in some complications; calomel may be given in the beginning if indicated by a pale coated tongue and a history of constipation. Turpentine may be administered internally for meteorism, and externally with hot water to the abdomen for pain, also in enemas. Avoid using salines too freely for distension of the bowels, or for congestion, or in plethoric conditions. If the tongue is pale and flabby, diluted hydrochloric acid may be tried; morphin and atropin may be given for sleeplessness and also for severe pain and hemorrhage or active delirium, but should be used cautiously. Strychnin may be indicated especially during convalescence, while acetozone may be tried as

a general antiseptic. Greater skill is required to carry out successfully a general physiologic treatment than in the mere drug giving, and the successful application of these principles will depend much upon the judgment and tact of the physician.

Systemic Antiseptics: *American Medicine* for May 2 asserts that of the various drugs which have been used as internal antiseptics in septic conditions but three today are worthy of serious consideration. These are quinin, Credés soluble silver, and formaldehyd. Quinin has for years been employed in septicemia with the idea that it is of benefit either by virtue of its effect on the leukocytes or else on the infecting organism. It is to be remembered however, that the lower forms of vegetable life as represented by bacteria are much less susceptible to the action of quinin than are those of the animal kingdom such as the plasmodium, so that if quinin does any good in septicemia it is not by virtue of its direct bactericidal influence.

Although there have been recorded a large number of cases of septic conditions in which Credés soluble silver has been of apparent benefit, it does not seem probable that the remedy acts directly on the cocci. It has been demonstrated that colloidal silver is comparatively feeble either as a germicide or as an antiseptic, and it would require at least four times the advised dose to have even the slightest direct effect on the cause of the disease. As regards formaldehyd, there is no room for doubt but that it is distinctly more feeble than corrosive sublimate. The experiments of Snodgrass and Elbrecht upon septicemic rabbits with solutions of formalin lessened the mortality but no more so than a like amount of salt solution. The whole matter must be considered at present *sub judice*.

Cholelithiasis: D. D. Stewart in the *American Journal of the Medical Sciences* for May states that there has been no solvent for gall-stones in the gall-bladder or in the bile-passages, and he has become convinced of the futility of the solvent treatment. The treatment of active cholelithiasis is now justly very largely abandoned to the surgeon. In some cases a visit to Carlsbad for a season or so may be of benefit; if there is no strong family history of cancer, and if the cholecystitis is recent and of mild type, and shows no tendency to persistent recurrence after some months of treatment, surgical intervention may be postponed. The one object in the treatment of simple cholecystitis is the endeavor to render quiescent the inflammatory process in the gall-bladder, and to prevent, rather than favor, the passage of a calculus from that viscus. During and following the acute seizure active purgation must be avoided, as must the use of all measures which are presumed to have cholagogue effect. Morphine must be employed with caution in acute cholecystitis because of the danger of masking the local inflammatory condition, and because of the effect the drug may have upon the

stomach, acting as it so frequently does, to later enhance the already existing gastric irritability. Nausea, vomiting and pain, save when a stone is presumably already in passage, should be controlled by other means. Gastric atony accompanying cholelithiasis is best treated by daily morning stomach douching with alternate hot and cold water; weak sodium bicarbonate or Carlsbad salt solution in the hot water, and sodium chlorid in the cold water, the last preferably a weak quassia or calumba infusion. Dr Stewart in all cases prefers, and has used for years, a combination of sodium sulphate and phosphate, or of sodium sulphate, phosphate and bicarbonate. The object of treatment in cases of calculous cholecystitis is not to promote expulsion of stones but to dissipate the underlying catarrhal process and prevent its return, and by maintaining persistent fluidity of the bile to obviate further stone formation.

Aluminum Chlorid: Dr G. Campbell in the *American Therapist* from the *St. Louis Medical Review*, refers to the value of chlorid of aluminum in the pains of tabes dorsalis. He first used three-drop doses of a 3% solution cautiously increased, with most satisfactory result. In overdoses the salt was a gastric irritant, but the pains were usually controlled before the dose reached one-half grain. One and one-half grains daily were given for long periods with no distress or disturbance of the general health. On the contrary the immunity from the pains enabled the patient to improve in general health and so reacted favorably on the other symptoms of the locomotor ataxia. In the gastric crises of tabes he has not met with success, though such are not aggravated by the drug. He does not attempt to explain the method of action but believes such results, attained without the use of narcotics or heart-depressing analgesics and with a certainty that almost amounts to specificity, are well worthy of a trial. Gowers, some years ago, called attention to the use of this remedy in tabes and in his clinical lectures on Diseases of the Nervous System. It seems to have a combined tonic and sedative influence on the structures affected. He refers to a physician who had taken the drug with great benefit, but who, after trying other agents with no improvement, with the resumption of the chlorid of aluminum, found relief. The dose as given by Gowers is larger than recommended by Campbell, and he does not refer to any disagreeable effects. Gowers gives the dose as two, three or four grains twice or three times a day after meals, and asserts that it has an especial effect in lessening the tendency to the pains.

Opium: E. W. Lee in the *New York Medical Journal* for March 28 believes that opium and its alkaloids have a definite place in surgery. Opium, like many other things, should be used judiciously. Morphin is especially indicated in fractures. Not only does it relieve the immediate pain, but it brings about muscle relaxation, so relieving many distressing symptoms. It is asserted

that the administration of morphin prevents the healing of tissue. This is disproved by observations on opium habitués, in whom other conditions being equal, primary union is secured as rapidly as in other cases. Morphin is the first remedy indicated in traumatic or surgical shock if accompanied by pain or hemorrhage. Morphin not only controls the existence of shock but it is a very potent factor in preventing secondary shock. Morphin subcutaneously is indicated before the administration of anesthetics, especially if the individual is addicted to alcoholic stimulants, and suffering from fever and nervousness. Morphin is the best internal hemostatic in the treatment of hemorrhage. When the hemorrhage is complicated by restlessness, morphin is absolutely indicated because of its quieting effect both on mind and body. Obstinate and exhaustive vomiting after ether or chloroform is often relieved by morphin given hypodermically. If in the first 24 hours after operation pain becomes so severe as to cause uncontrollable restlessness, it should be relieved by morphin, and to this rule there are practically no exceptions. When used in accordance with these indications, the beneficial effects of morphin so overshadow its injurious effects, that the latter are not demonstrable. He believes too in the value of opium in peritonitis. Cold or hot applications may be made to the abdomen, and the free use of cathartics is indicated to a certain extent, but after they have accomplished their purpose, the parts should be put at rest and maintained in that condition by the judicious use of opium, and he believes the time is coming when this will be considered the proper treatment of this disease.

Eugallol: L. M. Musbaum in *Merck's Archives* for April states that eugallol is the most effective remedy for psoriasis he has ever used. He used it on a patch two by three inches on his right forearm, and after a week it had all disappeared except a few small spots at the margin. The doctor has suffered from psoriasis for 20 years and has consulted almost all our noted dermatologists and believes the remedy must prove to be a God-send. Merck describes eugallol as pyrogallol monacetate, a dark yellow syrupy liquid, soluble in water. It is useful instead of pyrogallol in chronic obstinate psoriasis, applied usually pure as paint once daily followed in a half-hour by zinc oxid powder or paste.

Codein: Dr Jules Clausse in *Thèse de Paris* (quoted in the *Monthly Cyclopedia* for August) has found that certain classes of mental disease appear to be particularly benefited by codein. His conclusions are that marked improvement follows the treatment with codein phosphate in melancholia with moral suffering and corresponding disturbance of general sensibility. Such patients were rendered bright, cheerful and happy, and sleep was obtained, while the action of the codein on the bowels was not nearly so constipating as opium or morphin. The dose of the codein phosphate was about three-fourths of a grain subcutaneously and one to one and one-third grains by the mouth.

The Cleveland Medical Journal

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EDITORIAL

Let Well Enough Alone

It does not happen as often as we wish it might that the medical profession of this or any other city has an opportunity to express its appreciation of the stand taken by the lay press *in re* the question of public health.

As a result of the two serious epidemics which it has been our misfortune to encounter during the past twelve months, the public interest has been tremendously aroused and frequently very unjustly stirred by criticisms of the medical authorities which have appeared in the lay press of our city. In a recent editorial utterance, however, one of our established dailies has expressed the opinion *apropos* of this subject that "it is a pretty good idea for every man to stick to his trade," and it goes on to say "let the shoemakers make the shoes, the lawyers attend to law business, and the doctors take care of the sick, and devise means to protect the public health."

We are confident that every one of our readers will agree with this view of the matter, and will heartily concur with us in our endorsement of this outspoken editorial. There is, we

believe, no other single profession concerning the fundamental laws of which so much knowledge is professed by the laity as is true of medicine. One might infer from the vast amount of pseudoknowledge openly expressed in relation to things medical that ours was not a learned profession which required years of concentrated single-hearted effort to master the essentials alone.

• The public is strangely credulous of every utterance emanating from a layman, and particularly so if the statement comes from one high in the public estimation, even accepting as gospel truth the statement that the recent epidemic of typhoid fever was due to the strenuous life led by the people.

Granted that in a few instances the mad rush of commercial competition has worn out the workers and rendered them more susceptible to sundry infections, why add to the confusion already existing in the public mind and attribute all the ills that flesh is heir to to our twentieth-century strenuousness?

We would emphasize again the propriety of allowing the professions to care for their own work, and express it as our conviction that the public health will be vastly better looked after by those in authority without the interference of outside suggestions.

The Board of Health

Under the provisions of the new municipal code the appointment of the Board of Health lies wholly in the power of the Mayor. The statement has appeared in the daily press that our new Board is to have but two representatives of the medical profession in its full complement. It is difficult to believe that it can be the purpose of the present city government to place the vital question of public health in the hands of a Board made up largely of laymen with little or no training in matters of public hygiene and sanitation. With a view to obtaining a just and equitable representation on this Board, the Council of the Academy of Medicine appointed a committee to wait upon the Mayor with certain suggestions relative to the medical make-up of our Board of Health. This committee, representing the Academy of Medicine and the best medical judgment of the city, asked that the majority of the Board be appointed from the ranks of the profession, submitting with their resolution the names of certain physicians who had agreed to serve if appointed, and who in the judgment of the committee would

best serve the interests of the city at large. There are rumors that the power to appoint this Board is to be taken out of the hands of our executive, and left with the Council. Whether or not this is so, we cannot fail to express our hope that the majority of the members of the new Board of Health may be appointed from the medical profession, a hope which cannot fail to be endorsed by everyone interested in the sanitary welfare of our city.

Antistreptococcus Serum

The frequency of the streptococcus in various diseases, either as the cause of the disease itself or of secondary complications, has given rise to many attempts to produce a serum in the line of diphtheria antitoxin. Most of the work has been done in France and Germany, and a number of sera have been put on the market with the recommendation of the originators. The constancy of the streptococcus in the throat and blood of scarlet fever patients has led to the employment of the sera in many hospitals, and the results, while not uniform, are at least encouraging. Paltauf, in Vienna, in the treatment of 84 of the severe cases in a series of 400, claims a reduction of the mortality to one-half the usual number. Moser treated 100 severe cases out of a series of 799, with a total mortality of 6.25%, and a marked improvement in the general condition of all those treated. In this country Charlton reports the use of serum in 15 cases, in all of which the prognosis was bad, with 13 prompt recoveries almost free from complications. All the symptoms were ameliorated, and the course of the disease was markedly shortened. Other men report less favorably, and opinion is not yet at one as to the value of the treatment. The quantities used vary in amount, but accurate comparison is difficult on account of the number of sera under consideration. Results in other diseases to which the streptococcus seems related are rather less favorable. In septicemia with demonstration of the streptococcus the best said is that the gravest symptoms are not incompatible with recovery. The difficulty seems to be the probability that the streptococci, even in a single series of cases of a disease, are not necessarily identical, and that a serum prepared against one strain may not be efficient against another. Thus the sera are more or less effectual according as the organisms from which they are prepared are more or less closely related to the organism in the case under consideration. This agrees with the successful

preparation of a serum against a streptococcus disease of horses in which the serum is very efficient for that disease, but has no value in other streptococcus diseases, nor does it show any agglutinating action on the organisms isolated in those diseases. In connection with this, some claim that a streptococcus passed through animals, in the method usually pursued in heightening the virulence, thereby loses its value in the treatment of human beings. Attempts have been made to produce a serum from a mixture of different strains of streptococci, and a good grade of efficiency is claimed by the authors. The difficulties are great but not insurmountable, and it seems probable that physicians may soon be able to influence markedly the course and prognosis of diseases in which either the primary or the secondary manifestations are due to the streptococcus.

Mistaken Charity

It has always been assumed by those interested in the maintenance of all public charities that the chief object in view was to provide for those unfortunates who are unable to meet the burden entailed by additional expense in the event of illness or some other unlooked-for catastrophe.

We doubt much whether those in authority appreciate the injustice of the situation and the far-reaching and demoralizing result which follows when the hand of charity reaches out to help those who can and should help themselves. It all too frequently happens, in this as in every large city, that the individual seeking to escape the small compensation which he or she should be compelled to make assumes a feigned penury, and becoming one of "the graft" is cared for at public or private expense. The writer has followed a tragically poor woman several blocks from a public dispensary and seen her get into her carriage waiting not far away. This well-known form of medical dispensary abuse needs no further comment. When, however, a public dispensary, solely for the purpose of increasing its service or for the sake of its published report, distributes alms alike to those who can and to those who cannot afford to pay a fair recompense for such services, the time is at hand when, if possible, the blind should be made to see, and those giving generously to such a charity should be informed of the facts in the case.

No one can for an instant question the demoralizing effect upon the public at large nor the great injustice which results from such a condition of affairs.

The Index Medicus

In the February number of the JOURNAL we published the official announcement that the Carnegie Institute was to undertake the resumption of the publication of the *Index Medicus* under the editorial management of Robert Fletcher. As the number of subscriptions received to date for the new *Index* has been exceedingly disappointing, we take this opportunity of calling attention to this valuable publication and to the necessity of its enthusiastic support on the part of the profession at large. The Carnegie Institute did not agree to assume the entire financial responsibility of its publication, but did agree to make up any deficit to the amount of \$10,000 a year for a period of three years. It has occurred to us that the lack of support through general subscriptions was due perhaps to a misunderstanding of the plan for its publication, and we therefore take this opportunity of making clear the necessity and the need for prompt action on the part of every physician interested in the accurate record of scientific work, if we are to keep alive this invaluable publication. The subscription price is placed at \$5.00 a year and it seems to us that at this price this work is placed within the reach of everyone, and should find a large number of subscribers not only in Cleveland but throughout the State. This is unquestionably a matter of vital necessity to the entire profession of the country, and we would urge each of our readers to interest himself in obtaining subscriptions for this work.

Preparatory Courses for Nurses' Training Schools

The rapid development of the training schools for nurses throughout the country during the past decade has done much to increase the standards of education both theoretically and practically. That there still remains, however, an opportunity for better foundations upon which to build must be admitted. It frequently happens that many candidates for training schools have had but a limited preliminary education, and almost always have little or no knowledge of the biologic or physiologic sciences, a fundamental grasp of which is so necessary in the work of the training school proper. Appreciating the need for early education along these lines, several eastern cities have instituted schools for preliminary courses leading directly to the later work of the training school, or supplementing, if so desired, the courses offered in the public institutions of the various cities. The Drexel Institute in Philadelphia has been among

the earliest institutions to organize such a preparatory course of instruction. With its unusual facilities of laboratories and a large corps of instructors, much good is sure to be accomplished in this direction. We wish that this example might be copied more generally throughout the country, and we feel sure that the results accruing therefrom will warrant both the additional time and strength given to this work.

Prophetic Vision

At Toledo in May, 1902, the Ohio State Medical Association, acting unanimously upon the initiative of Dr J. S. Beck, of Dayton, inserted in its By-Laws in place of the old reference to the Code of Ethics of the American Medical Association the following provision:

"Chapter X—Ethical Principles. The ethical principles governing the members of the American Medical Association shall govern the conduct of the members of this Association in their relations to each other and to the public."

At New Orleans in May, 1903, the American Medical Association by unanimous vote of the House of Delegates adopted a thoroughly revised version of the Code of Ethics under the following preamble:

"The American Medical Association promulgates as a suggestive and advisory document the following 'Principles of Medical Ethics.' "

The Ohio State Medical Association

In submitting herewith a copy of the program for the Dayton meeting of the State Medical Association that takes place on June 3, 4 and 5, it is pertinent to refer to some special features.

This is the first time that the business of the Association will be conducted by a small but thoroughly representative body whose members are elected for that purpose by the county medical societies. This plan has been so successful in other States and in the American Medical Association that it is certain to prove advantageous in this State.

In addition to the President's address, there will be but one Oration this year, and that will be a notable one by the eminent Philadelphia surgeon, Dr John B. Deaver.

The program is not crowded, there is ample time for practical discussions, the scientific work will be entirely free of interrup-

tion by miscellaneous items of business, and in fine the proper work of the Association should this year move very smoothly.

On Thursday afternoon some of the time of the General Meeting will be given to the consideration of "Organization." The members present will find themselves fortunate in being enabled to listen to an address on methods of organization by Dr J. N. McCormack, Chairman of the Committee on Organization of the American Medical Association.

The New Orleans Meeting

The meeting of the American Medical Association at New Orleans was one of the largest and best in its history. The attendance was very large, the section work was good, and the House of Delegates accomplished a large amount of work with decorum and despatch. The value of the creation of a small representative business body was amply demonstrated. Those who in advance of the reorganization asserted that the creation of such a body, empowered to do all the business of the Association, would ruin the general attendance at the annual sessions, have now no facts upon which to hang a vestige of such a conclusion.

Undoubtedly the most notable feature of the meeting was the "laying" of that Banquo's ghost—the Code of Ethics. For 22 years physicians have quarreled over interpretations of obscure passages in the Code, and discord has reigned. The House of Delegates at New Orleans in 1903 replaced the Code by an expression of "Principles of Medical Ethics." It was unanimously declared that "The American Medical Association promulgates as an advisory and suggestive document the following Principles of Medical Ethics." The beauty of expression and purity of moral tone of the Code have been retained, and the new document is one to be read and re-read with pleasure by every physician. There is no longer a *Code* with penalties dictating qualifications for medical society membership or hindering liberty of professional consultation. Hereafter the county and state medical organizations will determine all the practical questions of ethics as best suits their needs and temper. Finally the great fact stands out that the greatest bone of professional contention has been removed once for all from the stage of professional endeavor. Had the New Orleans meeting accomplished nothing but this, it would have undisputed claim to historic position in the annals of American medicine.

An exceedingly pleasing feature of the meeting was the good spirit displayed on every hand. Men great in medicine willingly gave time and effort to the business affairs of the profession. Contending spirits on either hand gracefully yielded to the power of argument. Hot words and personal repartee were conspicuous by their total absence. Harmony reigns within the American Medical Association.

The great work of organizing the medical profession, which two years ago was undertaken by the Association, was at New Orleans shown to have progressed to an extent almost un hoped for by the most enthusiastic workers in the field of organization. The movement, now so well begun, cannot be stopped, and within five years the medical profession of America will be organized to an extent that will command respect and force recognition for the unselfish demands of medical science.

It was a notable meeting and those permitted to share in its accomplishments will never forget the occasion.

Special Address

Dr George M. Gould, editor of *American Medicine*, will deliver an address before the Academy of Medicine of Cleveland on Friday evening, June 19. The title to which he will speak will be "The Stone Which Builders Refused." Dr Gould is so widely and favorably known to the medical profession everywhere that he needs no introduction to a Cleveland audience. Every member of the Academy should make it a point to attend this meeting which is certain to be an inspiring occasion.

Rashness

The *Medical News* in a recent editorial says: "Patients who have vague gastric symptoms * * * usually have ulcers of the stomach or duodenum" * * * and should "submit to a harmless exploratory investigation which, in an increasing number of cases, will end in absolute relief by operation." It is clear that while the editor of the *News* was attending the meetings at New Orleans and Washington, some apprentice hand essayed editorial privilege. The internal evidence points toward the above opinion having been expressed by one who lived and moved during the craze for ovariectomy, when that operation was solemnly asserted to banish all the reflex ills of womankind. Seriously, a sober journal should walk with care before supporting any surgical

exaggeration. While it is no doubt true that many cases of the sort rather loosely described by the *News* have their origin in a duodenal or gastric ulcer, it is well known to all clinicians that even eyestrain and a host of other causes give rise to the same chain of symptoms. An individual when writing an essay may be permitted without great criticism to exaggerate the importance of one subject in order to make clear his point. But a sedate medical journal should move slowly in early endorsing an avowedly experimental operation. A careful surgeon under the advice of an experienced generalist might in safety and wisdom perform such an operation. A medical journal is likely to have its editorials read and assimilated by operators who evince enthusiasm rather than care. The result will not be good for either the public or the profession.

Bilateral Nephrectomy

Meltzer and Salan (*Journal of Medical Research*, February, 1903) report an interesting series of experiments upon the absorption of salt solutions by the peritoneum of rabbits after bilateral nephrectomy. This was undertaken in the hope that some light might be thrown upon the cause of edema in Bright's disease; the renal elimination in the latter is reduced, while after the above operation it is entirely absent. The findings are at variance with previous experiments along similar lines, but, as the number of observations in the present article is large and the technic described seems most careful, the results are evidently reliable. In such cases it has been supposed that absorption by the circulation of fluids in the tissues is markedly diminished, but these experiments prove that for a time at least the contrary is true. For a period of 24 hours or longer salt solutions in varying strengths are more rapidly absorbed by the peritoneum of nephrectomized rabbits than by normal animals, this being ascribed to the increased osmotic pressure of the circulating blood, due to the lack of renal excretion. Owing to the invariable death of the animals in from 40 to 50 hours after double nephrectomy, no prolonged experiments could be made, and therefore the possibility of a later stage when absorption would be decreased cannot be excluded and may occur in Bright's disease. This fact of increased absorption would account for the clinical observation that no edema occurs soon after double nephrectomy or in anuria due to nervous influence or after sudden obstruction.

SELECTION

Progress Towards Medical Unity

The American Medical Association during its session at New Orleans, May 5-8, 1903, took the most progressive step in its history. The Code of Ethics adopted as an admonitory document in 1847, made mandatory by the surreptitious insertion of a clause in the constitution in 1857, enforced as a blue-law with disastrous results to the profession until 1901, eliminated partially in that year and completely in 1902 from the organic law of the Association, has at last been given a new name, a new form, a new and, we believe, an entirely satisfactory status.

It is unnecessary to review the events leading up to this result. The unfortunate misunderstanding at St. Paul twenty and more years ago; the division of the medical profession in the State of New York; the adoption by the American Medical Association of resolutions explanatory of the code; the enactment of salutary medical laws by the different states; the rapid advances in medical education; the reorganization of the American Medical Association; the organization on distinctly non-sectarian lines of societies in affiliation with it; the elimination of the Code of Ethics from the organic law of the national association; the appointment of a committee to revise the eliminated code; conferences for the reunion of the profession in New York State; the report of the committee on revision of the eliminated code; the submission of a substitute set of "Principles"; the appointment of conference committees; the submission of the final report and its unanimous adoption, make one of the most interesting and important chapters in the history of American medicine. History, however, is of yesterday; we are interested, today, only in the precise results of the New Orleans meeting. What has been done?

The answer should relate first to the Code itself. The changes in this document were many, those of major importance being the following:

First.—The title "Code of Ethics" was dropped and that of "Principles of Ethics" was substituted, the House of Delegates thereby relieving the document of even a verbal resemblance to a statutory enactment.

Second.—A preamble was adopted, stating explicitly that "the American Medical Association promulgates as a suggestive and advisory document" the statement of principles that followed. This preamble was adopted separately with the dis-

inct declaration by vote that it was to be the preamble of any statement of ethical principles which might subsequently be agreed upon. The House of Delegates thus specifically determined not only that the Code was finally and definitely out of the organic law, but that it was out to stay out. This point having been definitely and emphatically determined the exact phraseology of the principles subsequently to be adopted became a matter of relatively little importance.

Third.—The restrictive clause relating to consultations was entirely eliminated—an act by which the long-standing and offensive barrier to individual liberty in the matter of professional associations is finally and definitely removed.

Fourth.—The importance of medical organization was emphasized, while no attempt was made to define who were or were not eligible to membership in subordinate and affiliated societies, except that they must be practitioners of medicine under the law. This action by the House of Delegates was really made necessary to give ethical sanction to the active work of organization that its official representatives are stimulating and effecting in several states.

Fifth.—The adjustment of ethical questions was relegated to the state associations and to their constituent societies, which are invested with the largest discretionary power in such matters.

Sixth.—All suggestions for the guidance of the public in its relations to the profession were stricken out.

So much for the "Code" itself—or rather for the "Principles" as the new document must now be designated. There were, however, other results of equally striking importance. The long and bitter controversy that was expected did not come off. The report of the committee was presented and Dr Reed offered a substitute for the Code that the committee had published as its report. The House of Delegates very promptly adopted the preamble presented in the substitute whereby any document that might later be agreed upon would be purely advisory. Thereafter agreement became easy. The conference was held without serious differences arising and with the result that additional changes were made. When, finally, the completed document reached the House of Delegates it was adopted with manifestations of enthusiasm rarely seen in a deliberative body. There were not only sighs of relief, there were shouts of joy, that the troublesome question was out of the way.

The action was distinctly expressive of the sentiment of the medical profession of the country. Local conditions in the state of New York were not taken into consideration. There was no question of expediency. What was done by the house of delegates was manifestly that, which in its judgment was best for the profession, without reference to incidental or extraneous considerations. The final result could not have been better devised to solve the problems awaiting adjustment in the state of New York, as well as the problems of medical organization of our entire country.

From the Buffalo Medical Journal, June, 1903. Advance proof furnished by the courtesy of the editor, Dr William Warren Potter

Here and There in Europe

FROM OUR TRANSATLANTIC CORRESPONDENT

The Berner-Oberland (MURREN)

Among the Alpine lands of the Old World the Oberland of Canton Berne ranks high in its hills, and also in the estimation of every visitor to Switzerland.

There are peaks and glaciers, cascades, torrents, rapid rivers and peaceful lakes, rugged cliffs and wooded slopes; snow fields and green meadows, the sublime side by side with the beautiful. This Oberland embraces all in its ample space, and offers to all lovers of nature, to the daring athlete and the philosophic thinker, the poet, the artist, the naturalist, the invalid and the convalescent, to all who come to it, a suitable welcome and entertainment. No wonder, therefore, that it counts its visitors every summer by thousands, coming to it, as they do, from all climes and nations, expecting delight and going away reluctantly and gratified.

The queen of the Oberland is Murren. It is perched upon a sunny terrace 5,400 feet above the Atlantic level and face to face with many of the highest Alpine peaks. Right in front are the world-renowned Jungfrau and her attendant Mönchs and Eiger, and the exquisitely beautiful Silberhorn. Ranging away to the right are the Ebenefluh, Gletscherhorn, Grosshorn, Mettaghorn, Breithorn, and other heights, each with its glaciers, and each of which by itself elsewhere would alone attract attention, but amidst the profusion of Alpine grandeurs at Murren are often unnoticed.

Although in such close contiguity to everlasting snows and perpetual glaciers, Murren has a delightful summer climate. It basks in the sunshine all day, and a huge chasm of a valley

which separates its terrace from the opposite mountain range treasures in its hollows the warm air of the daylight hours to yield it gradually after sunset to the Murren residents. Northward well-wooded hills shelter the town from all cold gales.

These peculiarities render Murren an agreeable health-giving resort even for the delicate. Its summer atmosphere is tonic to the debilitated, the over-worked and weary, and the anemic; restful to the nervous and rest-seeker, promotive of tissue-changing and more active blood formation and very beneficial in the beginning of lung diseases. For the botanist and flower-lover the sheltered slopes back of Murren, and the crevices and reaches in its rocks provide a scope of vegetation unequalled elsewhere in Switzerland. The excursions are most numerous, Alpine climbs for the most hardy and resolute, promenades of easy gradients for the less venturesome and less vigorous. Other amusements are not lacking. English and other church services are held, music is furnished at the hotels, an English physician is in attendance, and there are good hotels, especially the Grand Hotel des Alpes, which is one of the best on the European continent.

Murren is readily reached from all directions. A railway runs from Lakes Thrum and Brienz *via* Interlaken to Lauterbrunnen, where a cable railway ascends to the Grutschalp and thence an electric line along the edge of the terrace to the Grand Hotel des Alpes.

At Lauterbrunnen Village is the Hotel Steinbock, a branch house of the Murren establishment.

The pleasantest months for Murren are June and September. July and August are the fashionable and crowded months.

At a meeting of the International Executive Committee of the Pan-American Medical Congress, held April 1, 1903, it was decided to accept the proposal of the Argentine Republic to hold the Fourth Pan-American Medical Congress in Buenos Ayres in 1905, instead of 1903, as had been announced in their invitation of 1901 (February). This was considered by the committee much more advantageous for the meeting, as it has long since been realized that it would have been impossible to have had a good representation of the delegates from this and other countries, had the convention been held there in June of this year. The meeting of the American Medical Association in New Orleans, and of the Congress of Physicians and Surgeons in Washington would have prevented a number of physicians of this country from attending; while the meeting of the International Medical Congress in Madrid would probably have attracted many from the Spanish-American countries who would otherwise have been disposed to have taken an active interest in it.

Book Reviews

The Physician's Pocket Account Book, Consisting of a Manilla-bound Book of 208 pages and a Leather Case. By J. J. Taylor, M. D. Price, \$1.00 complete. Subsequent books to fill the case 40 cents each, or 3 for \$1.00. Published by The Medical Council, Twelfth and Walnut Streets, Philadelphia.

This account book should prove an invaluable addition toward systematizing the accounts of every physician, and as an aid in collection. As the law requires that an account book of original entry must show in plain language the description of the services rendered, the great serviceability of a book arranged as this is at once apparent.

The Anatomy of the Human Peritoneum and Abdominal Cavity Considered from the Standpoint of Development and Comparative Anatomy, by George S. Huntington, M. A., M. D., Professor of Anatomy, College of Physicians and Surgeons, Columbia University, New York City. Illustrated with 300 full-page plates, containing 582 figures, many in colors. Lea Brothers and Company, Philadelphia and New York. 1903.

In this superb work the distinguished author has produced a monograph which reflects the greatest credit upon American anatomic science. The idea followed throughout the book is an attempt to account for adult conditions, as found in man, by the study of ontogeny and phylogeny, in other words, by the mode of development in the embryo and by the structure and relations as they exist in lower vertebrates. Embryology and comparative anatomy are thus drawn upon in explaining and "elucidating the difficulty and often complicated morphological problems encountered in the study of adult human anatomy." That this method affords the only correct mode of presenting the subject and that more interest is thus aroused in the dry details of human anatomy, there is of course no doubt. The book breathes the spirit of evolution.

In the introductory chapter there is a brief account of the development of the vertebrate ovum, of the alimentary canal, cloaca, derivatives of the entodermal canal, etc. Part I takes up the comparative anatomy of the stomach and fore-gut and the development of the intestine. The subject of intestinal rotation is considered in detail and fully explained and made clear by the aid of comparative anatomy.

Part III, the stomach, spleen, pancreas, and liver are considered from the developmental standpoint. A considerable and interesting part of the work is that devoted to the ileocolic junction and to the phylogeny of this part of the intestine and of the cecum in the vertebrates. In Part IV the morphology of the human cecum and appendix is taken up. This portion of the work will probably appeal more to the surgeon than any other. Certainly nowhere else can such a physiologic and

thorough account of the morphology of this important portion of the intestinal tract and of the peritoneal folds and fossa in its neighborhood be found. The description of the various variations and of anomalous forms and their explanation afford much that is of practical interest to the surgeon. The numerous illustrations, taken from preparations in the morphologic museum of Columbia University, afford one an idea of the work accomplished by Huntington in this field.

Therapeutics of Dry Hot Air. By Clarence Edward Skinner, M. D., LL. D., New Haven, Conn.; Professor of Thermotherapy in the New York School of Physical Therapeutics; Editor of the Department of Thermotherapy in the *Journal of Advanced Therapeutics*; Physician in charge of the Newhope Hot-Air Sanatorium, New Haven, Conn.; Member of the American Medical Association, American Electro-Therapeutic Association, American Roentgen Ray Society, American Association for the Advancement of Science, Yale Medical Alumni Association, etc., etc. 200 pages, substantially bound in cloth. Price \$2.00. A. L. Chatterton & Co., 156 Fifth Avenue, New York.

This work comprises a very complete exposition of the use of dry hot air as a therapeutic measure. There can be no question as to the great value of its use in many conditions. If the author, in his enthusiasm, has seemed to over-state the results which may be accomplished in certain cases, this fact should not detract from the value of the work as a whole. As the author says in his preface, too much must not be expected of hot air or any other one measure.

In the chapter devoted to the treatment of sprains, no mention is made as to the value of massage in conjunction with dry heat. The work is well arranged and well illustrated. We can recommend it as an interesting and valuable review of the subject.

Diphtheria. By Wm. P. Northrup, M. D., of New York. **Measles, Scarlet Fever and German Measles.** By Professor Dr Th. Von Jurgensen, Professor of Medicine in the University of Tubingen. Edited, with additions, by William P. Northrup, M. D., Professor of Pediatrics in the University and Bellevue Medical College, New York. Handsome octavo, 672 pages, illustrated, including 24 full-page plates, 3 of them in colors. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, \$5.00 net; Half Morocco, \$6.00 net.

Owing to an arrangement made by the author of the original monograph on diphtheria it has been necessary to substitute in this volume an article by Dr Northrup in place of the original monograph. In our judgment, if we may be allowed to express so radical an opinion, the English readers of this translation are decidedly the gainers in this change. Much as we owe to the German investigators for their work on diphtheria and particularly for the discovery and development of the treatment by anti-toxin no small part of the credit for our present knowledge of

this subject is due to American investigators. Dr Northrup was closely associated with Dr O'Dwyer during the latter's development of the method of intubation, and has given us a wonderfully clear account of the gradual evolution of this means of combatting the disease.

This monograph constitutes an exhaustive record of our knowledge of diphtheria and is an exceedingly valuable addition to the literature. The work of Councilman, Mallory and Pierce on the pathology of diphtheria has been incorporated. The illustrations throughout the text, notably the skiagraphs and the outline drawings in reference to intubation, are unusually clear and helpful.

Von Jurgensen's monographs on Measles and Scarlatina are too well known to need any extended comment. The original articles have been carefully translated and edited, much new material having been incorporated in the text which is a storehouse of valuable information. We wish, however, that the section devoted to nephritis as a complication of scarlatina might have been made a little more clear. It has always seemed to the writer that much of the confusion extant in reference to this subject had been cleared up by the more recent work of the Boston investigators. This volume, like its predecessor, is an extremely valuable addition to the literature of the subject and is put before the public in a way that makes it an exceedingly attractive as well as accurate work of reference.

A Manual of Diseases of the Eye for Students and General Practitioners, by Clarence A. Veasey, Demonstrator of Ophthalmology in the Jefferson Medical College, etc. Illustrated with 194 engravings and 10 colored plates. Lea Brothers & Company, Philadelphia and New York.

This manual has been written primarily for medical students and must be judged accordingly. In order to keep the book within small compass much must be omitted and other portions condensed, and it is difficult to say what should be included and what omitted or how far a discussion of the subject should be carried. As a book for students, the author has done well in these respects, and has written one that is clear and concise, just the kind of a book that the average student wants while in medical school. As a text-book the addition at the beginning of each chapter of a paragraph upon the chief anatomic features of the part considered in that chapter would have been wise and useful, for in my own experience I have frequently found the student lacking somewhat or "rusty" upon these points, and it is well for him to refresh his memory along this line ere he begins studying the diseases of a part. While the author cannot go extensively into treatment in such a small treatise, the book is thoroughly modern. I was impressed by the fondness which the author manifests for subconjunctival injections as a method of treatment, but was rather surprised to

find no mention of the X-ray in the treatment of epithelioma or lupus of the lids. The book is quite freely illustrated, partly in color, is convenient in size and the publishers' part has been well done. It can be highly commended to students.

Diseases of the Pancreas and Their Surgical Treatment. By A. W. Mayo Robson, F. R. C. S., Senior Surgeon, Leeds General Infirmary; Emeritus Professor of Surgery, Yorkshire College, Victoria University, England; and B. G. A. Moynihan, M. S. (Lond.), F. R. C. S., Assistant Surgeon, Leeds General Infirmary; Consulting Surgeon to the Skipton and to the Mirfield Memorial Hospitals, England. Handsome octavo volume of 293 pages, illustrated. Philadelphia and London: W. B. Saunders & Co., 1902, Cloth, \$3.00 net.

Any work which throws light upon the diagnosis and treatment of pancreatic disease should be eagerly welcomed by every physician and surgeon. The present volume records and reviews in a very profitable way the clinical and pathologic work which has been done in recent years on this difficult subject. There is an accurate account of the anatomy, abnormalities, development, and structure of the pancreas with an interesting and detailed exposition of the various diseases and injuries of the gland. The admirable work of Körte and Oser, and the fruitful researches of Opie and others are freely drawn upon, and the authors have succeeded in presenting the profession with an excellent and valuable work.

Book on The Physician Himself and Things That Concern His Reputation and Success. By D. W. Cathell, M. D. The Twentieth Century Edition, Revised and Enlarged by the Author and His Son, W. T. Cathell, A. M., M. D., Baltimore, Md. F. A. Davis Co., Publishers, Philadelphia, 1902.

Works of this type occupy a unique place in medical literature; and among the few really helpful books which have appeared during the past decade, none have in our judgment supplanted this well-known volume, which has won for itself a deservedly high place in the affection of a host of students in the past, and in its new form seems destined to carry on just as successfully its mission in the future.

Since the appearance of the earlier editions the work has been considerably enlarged and in the preparation of this last so-called Twentieth Century Edition the author has had the cooperation of his son, whose viewpoint must of necessity bring him into closer touch with the present-day problems.

There is so much that is really valuable in this work, both for the older as well as for the younger generation, that we can but express the hope that it may find its way into the hands of every student and practitioner of medicine.

Medical News

Dr Syler, of Baltic, has located at Sugar Creek.

Dayton is enforcing vaccination among school children.

J. F. Grabill, of East Townsend, has removed to Elyria.

J. Mustard, of Harpersfield, has removed to Mark Center.

J. F. Schambs, well known in Plymouth, Richland county, died in Cleveland recently.

Mary F. Lemmon, of Cadiz, is making her home for a time in Pittsburg.

David Peppard, of Crestline, has opened an office in Mansfield.

C. A. Crane, of Canton, is taking a postgraduate course in Philadelphia.

James T. Farley, of Dumontville, has changed his location to West Lancaster.

Out of a total of 806 smallpox cases in Detroit but seven had a fatal termination.

A. H. Smith, of Marietta, spent a month taking a course of special work in Chicago.

Harry McGarvey, of Carrollton, will remove to Cleveland in the course of several weeks.

Jacob A. Stout has been chosen as the physician for the Children's Home at Columbus.

R. E. Scott, of Carrollton, on account of ill health, will move to a farm in Jefferson County.

B. F. Ray, who practiced in Geauga County for over 35 years, is about to locate in Painesville.

L. F. Hubbell is the new Detroit Southern R. R. Company's surgeon at Quincy. He succeeds N. V. Speece.

J. M. Chambers, of Warren, who has been at Hot Springs, S. D., for several months past, has returned home.

J. F. Baldwin, of Columbus, who was recently sued for malpractice, received full exoneration from the court.

L. P. Howell, for three years a U. S. Army Surgeon in the Philippines, has resumed practice at Washington C. H.

E. W. Ely, of Bluffton, has sold out and will leave in a short time for Germany to take up postgraduate work.

W. M. Taylor, of Bowling Green, returned from Mount Clemens, where he has been under treatment for rheumatism.

The Marion County Medical Society and the Marion Academy of Medicine were amalgamated at a meeting held recently.

J. M. Fackler, of Plymouth, has recovered from burns, received by an exploding oil lamp.

Charles Ulmer, of Bucyrus, has received an appointment as examining physician in the Pension Department at Washington.

T. W. Rankin, at the thirteenth annual meeting of the State Board of Health read a paper on "Fresh Air and Sunshine in the Home."

On account of insufficient room, the Miami Medical College, Cincinnati, will change its location to larger and more adequate quarters.

O. S. Wood, of Haydensville, has been appointed by the Commissioner of Pensions a member of the Pension Board, with headquarters at Logan.

Frank M. Wright, of Columbus, has resigned as resident physician of the Protestant Hospital and will assume similar duties at the Dayton Hospital.

Resolutions were unanimously adopted at a meeting of the Columbus Academy of Medicine, endorsing the idea of the construction of a detention hospital.

J. M. Phillips delivered a lecture on "The Appendix" illustrated with lantern slides at the regular weekly meeting of the Columbus Academy of Medicine.

It has been stated that G. C. Ashmun, at present a member of the Cleveland Council and formerly Health Officer, will accept a position on the new Board of Health.

In his annual report, Dr Friedrich lays particular stress on the important part that unpaved and unsewered streets play in the propagation and spread of disease in a city.

Clarence Ordway, of Perrysburg, who was recently appointed to one of the New York Hospitals, has been compelled to return to his home on account of ill health.

The physicians of Athens County met at Athens and effected an organization known as the Athens County Medical Society. Nearly every town in the county was represented.

E. J. Wilson, of Columbus, has been appointed a member of the State Board of Registration and Examination for a term of seven years, to succeed N. R. Coleman, also of Columbus.

C. O. Probst, Secretary of the State Board of Health, issued a call to all health boards and health officers to attend a meeting at Columbus, to discuss measures for the prevention of smallpox.

The Adams County Medical Society held a session at West Union. R. W. Purdy read a paper giving his experience as a physician during 20 years. Merrill Ricketts, of Cincinnati, was present and addressed the Society.

There was a quarterly session of the Ohio State Board of Health at Columbus recently. The Cleveland water-supply

and several sewage disposal plants for other cities were the principal matters to come before the Board.

The Wood County Medical Society met in regular session and three new members were admitted. Lectures were delivered by I. S. Bowers, of Perrysburg, Dr Holst, of Rossford, and William S. Trichler, of Bowling Green.

John H. Lowman, of Cleveland, addressed the Columbus Academy of Medicine on the occasion of its annual banquet. His subject was on the advisability of the establishment of sanatoria by the State for the treatment of tuberculosis.

In his annual report of the City Water Works Department, of Cleveland, Superintendent Bemis will devote considerable space to the question of water-meters. He will try to prove that they play absolutely no part in the present typhoid epidemic.

Health Officer Friedrich will make an earnest effort to enforce the law regarding the birth certificates of Cleveland, which are now and always have been wholly unreliable. No real effort has ever been made to enforce the law, and consequently the statistics have been of very little value.

On account of the typhoid epidemic in Cleveland recently, the hospitals of the city were entirely inadequate to care for the total number of patients inquiring for admission. During several weeks only the severer casualty cases were received. In a number of hospitals cots were put up in halls, while lumber rooms and any other available space was made to hold beds.

The Stark County Medical Society met recently at Canton. The following program was carried out: "The Use and Abuse of Subdermic Medication," Harry March; "Notes on the Use of Obstetric Forceps," W. W. Culbertson, Massillon; "The Cases of Appendicitis and When to Operate," A. B. Walker; Report of Cases, L. B. Santee, Marlboro; R. J. Pumphrey, Massillon; H. E. Corl, Middlebranch.

The Sandusky County Medical Society held an annual meeting and elected the following officers: President, R. H. Rice; vicepresident, M. A. Phillips; secretary, O. C. Vermilya; treasurer, C. R. Pontius. Dr Jacoby, of Toledo, was present and read a highly interesting paper which was much appreciated. On the Thursday evening following, the members enjoyed a banquet in honor of the veteran practitioner, Robert H. Rice.

The Richland County Medical Society met at Mansfield. A good program, consisting of a consideration of the early diagnosis of tuberculosis, was given. The legislation and treatment of tuberculosis will be the subject at the next meeting. The following officers were elected: President, M. T. Love, of Shelby; vicepresident, F. E. Findley; secretary, Lillian McBride, of Mansfield; treasurer, Emma Millikin, of Ontario.

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No 7

Rheumatism in Childhood

BY ALFRED FRIEDLANDER, M. D., CINCINNATI

Physician to the Children's Ward, Jewish Hospital

The etiology of articular rheumatism is a subject that has engaged the attention of both pathologists and clinicians for a long period of time. As a natural result, various theories have been advanced, only to be subsequently rejected in the light of later investigations. Climatologic and meteorologic changes, heredity, perversions of metabolism with resulting abnormal chemical processes, and bacterial infection have all been announced as prime exciting causes of this affection.

With reference to climate, to seasonal conditions, and heredity, we may say at once that, while they may be predisposing factors in many cases, they cannot possibly be considered as the sole causes. We do know that rheumatism is more common in certain climates, and certain seasons of the year, than others; we do know that certain families are "rheumatic," and yet we recognize after all that these things do not explain the incidence of the individual attack. Among the theories advanced to supply this missing link of knowledge, those of perverted metabolism, with resulting chemical changes, held sway for a long time. Thus Prout believed that the disease was due to an excess of lactic acid in the blood. Inasmuch as the normal amount of lactic acid in the human body is, even today, not definitely known; inasmuch too, as we have no reliable practical quantitative test for lactic acid in the blood, it is difficult to see how such a theory is to be substantiated.

Haig, and many others, believed that the disease was due to excessive formation of uric acid in the blood, but later investi-

gations have shown that this theory does not rest upon any solid foundation of fact, in that the surcharge of the blood with uric acid cannot be demonstrated. The latest theories, and the most plausible ones (not because of their newness, however), would assign rheumatism to the category of diseases caused by microbic infection. As we see it in adults, rheumatism in its onset, its manifestations and its course, presents a striking similarity to other infectious diseases. The typical febrile movement, the evidences of constitutional infection with local manifestation, the self-limited course with, at times, relapse dependent upon reinfection, offer an analogy to other infectious processes much too close to be merely coincidental. Added to this, various investigators have succeeded in isolating germs from the various organs postmortem, from the blood and rheumatic nodules *intra vitam*. Especial mention should be made of the work of two English observers, Poynton and Payne, who claim to have demonstrated absolutely that the exciting cause of rheumatism is a definite diplococcus. While it is perhaps not possible to accept this particular claim as absolutely proven, it is more than probable that the exciting cause of the disease will be found to belong to the pyogenic group of bacteria. If we conceive of an attenuated form of virus of this kind, without attempting to specify any species as yet, we can understand the theory which explains rheumatism as a more or less mild septicopyemia.

Naturally enough, the question at once arises as to how the germs gain entrance into the system. It is altogether probable that in the majority of cases the tonsil is the primary seat of infection, as was shown by Leyden, Meyer and Singer. Recently Menzer has demonstrated the presence of streptococci in the peritonsillar tissue in rheumatism. This is important, for it goes to show that we may have infection, not only through the tonsil, and thus into the lymphatic circulation, but also through the peritonsillar tissue, and so through the general systemic circulation. It is in this light that we are privileged to regard rheumatism as a true blood-poisoning, a true septicemia.

At the same time this theory takes due cognizance of those causes previously alluded to as merely predisposing, for it is easily conceivable that climatic, seasonal or hereditary conditions might so lower the bodily resistance that the germs would find entrance, and then upon suitable soil have the opportunity for subsequent development.

In a recent address Rotch emphasized the fact that pediatrics, as such, does not concern itself so much with the

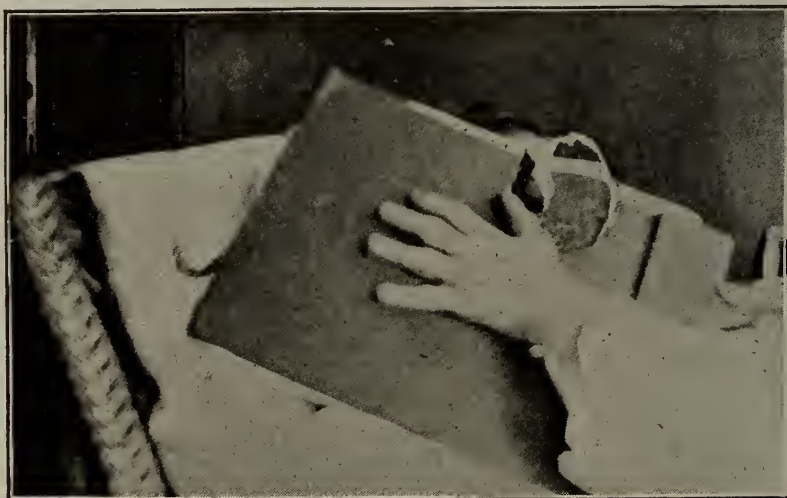
diseases *of* children, because there are not many diseases incidental to childhood alone, but rather with the manifestations of disease *in* children, with the special peculiarities of disease which the period of childhood induces.

Rheumatism offers an excellent illustration of the case in point. Its clinical manifestations, as seen in childhood, are very different from those of adult life. In the first place, the arthritic symptoms are not nearly so well marked. In many cases we do not have the sudden onset with high fever, red, swollen, and intensely painful joints and the severe constitutional depression that form the symptom-complex in adults. The joints may not be greatly reddened and swollen. Indeed it is a point worthy of special insistence that the pain is not always referred to the joints at all. We have come to know, for instance, that the so-called "growing pains" of children are frequently rheumatic in origin, and to appreciate, furthermore, that at times they are the only rheumatic pains from which children suffer. Though arthritis is at its minimum, endocarditis is at its maximum in the rheumatism of childhood. As a matter of fact, the modern view inclines to the belief that heart-lesion is not to be regarded as a complication of rheumatism in the child, but as one of the manifestations. The close association of rheumatism, endocarditis and chorea has been recognized for a long time, and by many are now regarded as merely different phases of the same morbid process. Nor is it to be forgotten that rheumatism need not necessarily precede the other affections in point of time, nor must all three conditions be present in a given case. As Cheadle has put it, "Any one of the phases may be absent, one only may be present, or two, or all three. The different manifestations, again, may occur not only in any order and combination, but separated by varying intervals of time; following one another in quick succession, or some appearing months or years after the rest. Thus an endocarditis or a pericarditis, or a chorea, may occur first and alone, the joint affection long after."

In addition there are certain symptoms of rheumatism in childhood that demand special notice. *Peliosis rheumatica* is quite common in childhood. In many cases the child sickens with what appears to be an ordinary tonsillitis. After a varying interval, usually measured in days, the characteristic purpuric rash develops, usually about the extremities. The spots are usually purple in color, of variable size, most often tender on pressure. In some cases the rash becomes generalized. Arthritic symptoms may develop, but need not. In a case

recently under treatment in the children's ward of the Jewish Hospital, the tonsillitis and rash with the usual febrile movement and constitutional disturbance were present without arthritic symptoms. The history of the case showed that the boy had had several distinct attacks of articular rheumatism. Under the salicylates improvement was rapid. This condition is in all probability to be regarded as a "rheumatic equivalent," and its occurrence in a given case affords strong presumptive evidence of a rheumatic diathesis.

Rheumatic nodules also occur more often in the rheumatism of children than in that of adults, although in this country they are rare in either form. These nodules, first described by Barlow in 1881, are subcutaneous masses of fibrin, cells and fibrous tissue, varying in size from a pin-head to that of a small bean. They are most apt to occur over the malleoli, at the margins of the patella, or along the extensor tendons of the hands, fingers or toes. There is at the present time in the Jewish Hospital a boy 12 years of age suffering with articular rheumatism, who presents an exquisite picture of this rheumatic manifestation.



This case is of more than ordinary interest, and it therefore may be permissible to detail a few points of the history. The boy presents various manifestations of late hereditary syphilis, the specific dactylitis being especially well marked. The accompanying photograph, unfortunately not good, gives some idea of this manifestation. For two years this boy has been subject to attacks of acute articular rheumatism. On admission, there was moderate fever, swelling and pain of both ankles and wrists. Rheumatic nodules were particularly distinct along the extensor tendons of the right hand. The heart was markedly dilated, the

dulness extending two fingers' breadth beyond the midclavicular line on the left, and beyond the sternal margin on the right. A double murmur was heard at the apex. At the junction of the third rib with the sternum on the left side was heard a typical pericardial rub. Here we had the combination of arthritic manifestations, with endopericarditis, as we frequently find it in these cases.

Another symptom of rheumatism in children, often of diagnostic importance, is recurrent epistaxis for which no local cause can be found. The mechanism of its production is not clear, and yet the association occurs so frequently that it cannot be a mere matter of coincidence. Last year Phillips reported 10 cases of epistaxis all associated with rheumatism. The occurrence of so-called idiopathic nose-bleed in children is therefore frequently suspicious.

While the diagnosis of rheumatism in the adult is, as a rule, not a matter of difficulty, its recognition in childhood is not always easy. This is because of its atypical onset and course. Thus the onset of an endocarditis, which, as we have seen, may be the initial phase of the disease, is often very insidious.

Even the most careful examination may fail to reveal anything wrong with the heart other than a slight weakness, some irregularity and greater rapidity of action, though sometimes a faint murmur may be heard. The general constitutional symptoms of languor, depression and anorexia are not at all specific. It is in these cases that careful observations of the temperature, continued over periods of time, are of great value. Continuous fever with slight remissions, even though of comparatively low degree, not explainable by the other definite infection, is one of the most reliable signs of beginning endocarditis that we have. Indeed, in an article entitled "Endocarditis and the Use of the Thermometer in Its Diagnosis," Brunton goes so far as to say, "If you find a murmur at the heart, or even in cases where you can find no murmur, if you find a temperature which runs a course much like that of quotidian ague in a case where you can trace no malaria, and where you can find no indication of suppuration, it is very likely indeed to be a case of endocarditis."

Again it is to be remembered that the chorea is not necessarily of the clear unmistakable type which allows a diagnosis to be made at sight. Very frequently the child is simply "nervous," awkward at play or at table, usually restless or irritable, showing only indications now and then of the characteristic choreic movements.

Of course, when all is said, in most cases the diagnosis is not difficult. But, as Holt has put it, the disease is more frequently overlooked than confounded with other diseases. In doubtful cases especial attention should be paid (a) to the family history, (b) to the previous history of the patient as regards slight joint stiffness without swelling, growing pains, nose-bleed, frequent attacks of tonsillitis and erythema, (c) the examination of the heart for signs of endo- or pericarditis and (d) the temperature. Careful search will sometimes reveal the presence of the tendinous nodules.

It must not be forgotten either that in the rheumatism of childhood, even in marked cases, we do not have the successive involvement of many joints as we do in adults. In children we very frequently have very few joints involved, and in many cases, certainly not gonorrheal in origin, (though gonorrheal rheumatism is not rare in childhood), but a single joint is involved. With reference to prognosis, it need hardly be said that the rheumatism in itself is rarely dangerous. The danger lies in cardiac manifestations. Unfortunately, one attack greatly predisposes to subsequent ones, and so the heart, which at first may escape, may in a recurrence become affected. Prophylaxis plays an important rôle in the care of rheumatically inclined children. In cases in which the family history shows the existence of rheumatism, the predisposed child should be carefully watched. The indefinite symptoms before referred to demand attention; exposure to damp weather, rather than to cold weather, must be avoided as much as possible, and such definitely rheumatic symptoms as growing pains, recurring torticollis, etc., should receive appropriate treatment. In the line of prophylactic treatment too comes proper attention to the condition of the child's throat. The existence of adenoid vegetations and of enlarged tonsils especially, is a matter of concern, inasmuch as the tonsils doubtless form the port of entry for the rheumatic virus in many cases.

With reference to the actual management of these cases, it is well to remember that rheumatism in childhood is apt to extend over a long period, frequently measured by years. Crandall has expressed this idea very aptly in discussing the management of "rheumatic children" rather than simply the question of rheumatism in the child.

The relation of diet to rheumatism is still a question *sub judice*. While the uric acid theory of causation held sway, it was believed that nitrogenous foods were to be strictly eliminated from the dietary. The prohibition extended even to animal

broths and eggs. It appears certain now, that rheumatic children do best upon a generous dietary, in which the special limitations are to be applied to the sugars and starchy foods. Malnutrition is frequently a factor to be considered in these cases, anemia is almost the rule. Under the circumstances, a liberal, nourishing diet, with moderate amounts of the more easily assimilable meats, with plenty of green vegetables, will be found to meet the indications most often. Special mention should be made of milk, which should be taken in large quantity.

Rheumatic children should wear flannel underwear the year round, its weight being varied according to season. Its value in diminishing the danger of chill is fully established. While exposure to cold itself is to be avoided when possible, it should be remembered that damp weather, with cold east winds, with the ground covered with slush, is especially favorable for the development of rheumatism. For the actual attack the salicylates, in combination with bicarbonate of soda, offer the best plan of treatment. In order to get good effects from the salicylates, the quantities used must be rather large. While it is doubtless true that these drugs are somewhat depressing to the heart, it is just as true that children ordinarily stand proportionately large doses. When the case can be carefully controled, the use of large amounts at the outset so as to mass the effect, is of decided advantage, though this plan of treatment demands watchfulness on the physician's part. The salicylates certainly have a marked analgesic effect, even though there be some doubt as to their value in preventing cardiac trouble.

Local applications to the joints, if they be inflamed, are not always necessary. Simple wrapping of the joints in cotton batting is usually sufficient, though at times it is well to immobilize the joints by splints. Occasionally, the local application of 2% salicylic acid ointment has seemed to give some relief. The rapid development of severe anemia is one of the characteristics of rheumatism in childhood, and this needs to be met as soon as possible by the administration of ferruginous tonics. Indeed, as a matter of fact, the treatment of the acute attack itself is nearly always very simple. The point to be remembered is the necessity for keeping these children under constant observation for long periods of time. The danger of cardiac involvement, grave under any circumstances, is heightened by the tendency to frequent recurrences. The after-treatment is, therefore, of importance. One very necessary factor in this after-treatment is rest. The child should be kept abed for

some time after the subsidence of all acute symptoms, even though an examination of the heart be negative. Prolonged rest, which means absence of cardiac strain, is one way of preventing heart lesion, a way not always successful of course, but a method of treatment worth trying in any case.

On the theory that rheumatism is of bacterial origin, and that the salicylates have a bactericidal, or antitoxic effect, it has been recommended to administer small doses of salicylates at intervals (say during one week each month) for long periods of time. This is to be done even where there are no distinctly rheumatic manifestations in the hope of warding off attacks. This line of treatment has proved successful in a number of cases. But after all, the therapy of rheumatism in childhood is not a matter of drugs alone. Proper clothing, regulation of exercise, avoidance of exposure, prevention of anemia, and lastly, (and perhaps most important) attention to the condition of nutrition by the enforcement of a properly regulated diet will be found to be our most reliable aids in the management of a condition always troublesome, and frequently serious.

22 West Seventh Street

The Laboratory Movement in Ohio's State Hospitals

BY A. P. OHLMACHER, M. D., GALLIPOLIS

Superintendent of the Ohio Hospital for Epileptics

In the evolution of State medical institutions, particularly in the half-century just ended, problems of administrative and custodial nature have been quite satisfactorily solved, and a new movement in the line of progress has made its appearance. This movement concerns the improvement of the strictly medical administration of the State hospitals, more especially in the direction of the scientific study of their extensive and varied material. The medical profession has demanded that these large and expensive institutions yield some scientific fruits, and this demand has met the approval of the intelligent public. Each year in the last decade has witnessed an improvement in the character of the medical work and in the personnel of the medical staff of our leading American State institutions, and it is now quite the fashion to find in them well-furnished hospitals with good facilities for clinical study, and well-equipped laboratories in charge of special directors.

A further step resulting in the centralization of the scientific work, chiefly that relating to advanced original research, has been taken in the State of New York by the establishment of the Pathological Institute of the New York State Hospitals, and in several other States a similar departure is under way or in contemplation.

Ohio finds itself in the position of a number of other States in that some work is in progress in the separate State Hospitals at Gallipolis, Columbus, and Massillon. At Gallipolis the laboratory work of the last five years has assumed a more extensive range than in the other Ohio institutions, and some original investigation has been pursued and the results published. The experience in other States has shown, however, that the greatest good cannot be accomplished by each of the several institutions in the State maintaining a large independent laboratory, and the scheme of centralization both for purposes of teaching and investigation seems plainly indicated as the next step in the evolution of scientific work in Ohio's State Hospitals; leaving to the separate institutions a smaller laboratory for clinical pathology, for the accumulation of pathologic material, and for certain lines of research adapted to the existing local conditions. Those of you who are familiar with the arguments advanced in other States in which central laboratories have been founded or projected will be prepared to follow without further preliminary the present attempt to give an outline for a similar Institute for Ohio.

Granting that the sympathetic interest of the organized medical profession of Ohio has been aroused in favor of this project, and that a similar chord has been struck among the superintendents of the various State Hospitals—an assumption highly reasonable in its probability—the next step would be to secure the cooperation of the public and particularly of its official representatives. This could be accomplished by bringing the subject to the attention of the Governor and General Assembly in the form of a manifesto indicating the aims and purposes of the proposed establishment, together with definite data as to its scope and plans. Such a memorial, properly, intelligently, and successfully presented, should enlist the active interest of the legislature and executive with the enactment of regulations governing the new institution, and the setting apart of the necessary appropriations.

This project has engaged my serious attention for a period of five years during which I have been associated with the laboratory at the Ohio Hospital for Epileptics, and I venture now to submit a short sketch of the plan I have formulated for the State Pathologic Institute of Ohio. In the matter of location, Columbus has

a number of arguments in its favor. In order to secure the benefits of a pedagogic atmosphere and to be as free as possible from the danger of political interference, the Institute should be a part of the Ohio State University. For purposes of clinical study and to secure fresh pathologic material, it should have free access to the State medical institutions in Columbus—the State Hospital for the Insane and the Institution for Feeble-Minded Youth in particular. Systematic courses of instruction should be offered to the assistant physicians of all the State Hospitals. Each of the out-lying hospitals should employ its local pathologist trained to obtain and properly handle pathologic material, as well as to secure the relevant data, and this material should be accessible for study by the central laboratory either by one of its staff or by the pathologist in the local hospital under the direction of the Institute.

Two functions, teaching and investigation, should be the principal motives of the Institute's efforts. For the latter purpose, it occurs to me as important that the central laboratory should be open to properly qualified workers from the medical profession of the whole State. The assemblage of gross pathologic specimens—that is to say, the formation of a museum of morbid anatomy—should be one of the aims of the Institute. This museum should be sufficiently extensive in its scope to supply the educational pathologic exhibit which the Ohio State Medical Association still lacks, and it should be freely accessible for study by the profession of the State. The strictly scientific memoirs of the Institute, addressed to other special workers in the field of pathology, should be issued from time to time as material accumulates, and it seems very desirable that the publication of these papers should be controlled by the Institute, following the model set by the splendid *Archives of Neurology*, the organ of the Pathological Laboratory of the London County Asylums. Papers of general medical interest could advantageously be published in the current medical periodicals. Finally, provision should be made for still another class of publications, the desirability of which has been brought to our attention during the work in the laboratory at Gallipolis. I refer to popular bulletins for public distribution, something after the model of those now in vogue in the scientific bureaus of the Federal Government, or like those of our State Board of Health; setting out in plain language the results of the scientific work of the Institute whenever some distinctly valuable contribution in the direction of elucidating the nature of disease or indicating methods of prevention shall have been made. The educational value of such publications, directed to the public supporting the

State Hospitals and the Institute, would be very great, and if judiciously prepared much good would be accomplished by them. A special fund providing for these publications should be set aside.

The government of the Institute could be vested in a Board of Trustees, and it seems to me desirable that the Ohio State Medical Association, the State Hospitals, and the State University should be represented in this body, with the balance of power left in the hands of the medical profession so as to secure at all times the predominance of the medical-scientific aspects of its affairs. Its immediate management would call for a Director or Chief appointed by the Trustees, with a corps of properly qualified assistants of his own selection.

Such, in merest outline, is the plan I would suggest for the establishment of the State Pathologic Institute of Ohio. To me, the time for definitely launching this project seems auspicious, and I believe that the voice of this Association as it is now organized, directed through the proper channels, would secure a favorable response at the hands of the officials representing the people of the State of Ohio.

The Relative Value of Diagnosis

BY F. C. GRAY, M. D., DAYTON

That a diagnosis in a given case is always a matter of importance, having immeasurable value in a relative sense, is accepted without cavil. The only excuse for this paper is to accentuate its importance. Intelligent therapeutics and likely prognosis are its dependents. By likely prognosis is meant a result most likely to obtain. It should not be forgotten that not infrequently physicians prescribe the limit of life, only to learn that their unqualified pronouncement of doom has proven a discredit to them and their profession, while charlatans and charlatanism have profited by an unqualified decision. It is certainly satisfactory to be able to make a diagnosis, and just as unsatisfactory not to be able to do it.

While diagnosis is of relative value there cannot be a relative diagnosis, it is or it is not made. In the realm of pathology the period of the guesser is fast disappearing. In proportion to the guessing will be the disaster. Fallibility is omnipresent, all men are fallible. Were this not true no appeal need be made, no desire need exist for greater ability to diagnose disease. A failure to diagnose should be a matter of regret, if not a matter of humility. It is not to be presumed that a physician will be at all times and in

all instances right in his discrimination and conclusion. All men make mistakes, and if they did not they would not be men; yet a physician's success as a physician cannot be said to be due to inexcusable mistakes.

The relative value of diagnosis depends on the fewest mistakes possible, and while it is true that a physician has not at all times and under all circumstances the same acuity of vision, intellectual might, power of recall of symptom-group, ability to compare and contrast, yet his purpose should be to perfect himself in these things so far as it is within his power.

Again, a man is not alike capable each day; if he were it would imply such perfect human balance that perturbation and disturbed equilibration would be unknown. All nature has its undulations. Why should man be exempt and stand for constancy? Yet the more inconstant he is as a diagnostician, the more lamentable becomes the fact when applied to him as a physician. Our German brethren have been accused of being sticklers for diagnosis and of being indifferent to therapeutics, their interest in their patients terminating with diagnosis. Whether true or not, their remarked attitude concerning diagnosis deserves as strong commendation as their accused interest in therapeutics merits condemnation. Certainly all our efforts should be for the making of good for our patients.

Second only to prevention of disease is its early recognition. It is agreeable to note that there is especially manifest in the medical literature of the last few years a disposition to accord to diagnosis its proper value. A plea touching almost all diseases is made for their early recognition on which so often depends success in treatment.

As evidence of the accepted relative importance of diagnosis it is pretty generally believed, "That in the realm of practical clinical medicine there is no one feature that gives strength to the art and science like that of making a diagnosis. As a general proposition it may be said that prompt, accurate diagnosis is the most difficult and, at the same time, the most important thing in medicine or surgery."

The result of applied means in diagnosis is scarcely less than wonderful, and certainly of undeterminable value. For instance, we will consider tuberculosis; the hectic flush, recurrent chills, pronounced emaciation, quantities of pus and cadaveric anemia, are no longer necessary to a diagnosis. Thanks to science, a physician has the resources by which he can diagnose tuberculosis even previous to one of the mothers of Israel.

Tissue disorganization, as demonstrable by physical examination, the presence of bacilli-bearing expectoration, are not essential to a diagnosis, as it may and ought to be recognized in their absence by the no doubt harmless tuberculin injection. It is believed by most physicians that promptness of diagnosis in tuberculosis very largely determines the prognosis.

Dr W. J. Brooks, who believes in the Virchow distinction of phthisis and tuberculosis, *viz.*, that phthisis is tuberculosis plus septicemia due to pyogenic superinfection, writes: "While tuberculosis, as well as many cases of phthisis, is eminently curable, early diagnosis is of vital importance. Successful treatment must depend upon measures taken before the lungs are extensively involved, and it goes without saying that if tuberculosis was generally diagnosticated there would be practically no mortality."

We are aware that what promise of cure there is in malignant diseases depends on early diagnosis, and it is deplorable that still many cases are not recognized until it is too late for relief.

Surely rapid strides have been made in diagnosis in medicine and are largely due to the development of the microscope, as a result of which development "almost every disease has been made to come forth and stand in the brilliant sun-light of scientific research." It has enabled investigators to develop anatomy, physiology, pathology and bacteriology, a working knowledge of which furnish us aids in diagnosis which range from absolute to less than absolute aids touching most all diseases.

Besides the many pathognomonic bacteria, how invaluable is the plasmodium of Laveran in determining the presence of malaria, and how much less excuse there is for the existence of low fevers and how less a scape-goat for unrecognized conditions is malaria. Thus another idol is broken, and its idolized companions, neurasthenia, and the lithemic or the uric-acid group, as causes of the not well-understood maladies of the human family, are but awaiting the same oblivious fling.

Of decided value are the Widal reaction in typhoid fever and a high-count leukocytosis in the process of pus development.

Surgical diagnosis has not been as rapidly developed as medical, yet it is being constantly improved, and surgeons are pleading for early recognition of cases that are to be relieved by surgery. They demand of the physician early diagnosis in appendicitis, peritonitis, ectopic pregnancy, intestinal obstruction and perforation, malignant conditions, pelvic suppurative inflammations, etc., claiming in most instances that the symptom-groups are sufficiently classic to be recognized.

It is not strange that they should dread local disorganizations and constitutional infections that destroy life and discredit operative interference.

To nature as a conservator of life we pay obeisance, and humbly acknowledge our gratitude for her oft-times charitable preservation, yet many times the destructive processes of disease will not pause while a physician fails to recognize the condition, and consumes time in waiting and hoping, he knows not why, for improvement. However, it is understood that in some instances in the absence of indications for immediate interference, it is expedient to allow time to develop the case and make a diagnosis comparatively easily arrived at.

En passant it might be remarked that while exploratory incisions are, in not a few instances, necessary for diagnosis, and while, as a rule, they may be made with impunity, the tendency to treat hidden pathology indifferently and depend on exploratory surgery for a diagnosis should be deprecated, as it does not conserve to diagnostic ability, and is not always best for the patient.

Is it not evident that the most essential thing in the successful treatment of diseases is diagnosis, and is it not true that the physician who is awake to the best interests of his patients, his profession and himself will not fail to appreciate the value of the new methods, as well as their limitations? It can be only by the diligent use of all the diagnostic resources at our command that we can hope for the development of faculties which make for that intuitive ability which is the art in its perfection.

Better things are expected of a physician than to treat a patient for a diseased stomach, whose stomach disturbance is incident to a nephritis or to the influence of hardened wax on the tympanic branch of the pneumogastric nerve; a renal congestion which runs away when pursued by digitalin for Bright's disease; an appendicitis for bilious colic; a cord sclerosis or coxalgia for rheumatism.

More complimentary is it to him as a diagnostician when he is not deluded by a false sense of security, and he insists on the why and the wherefore when he sees in a subnormal condition a pretubercular or a precancerous state, and recognizes in lower-lid edema a symptom which may precede an albuminuria or a cardiovascular alteration.

The physician who by virtue of popularity, from any reason, is so busy in practice that he cannot give time and attention sufficient to determine the pathology of the disease of his patients should be generous and seek the assistance of his capable brethren, or accept less business and insist on more respectable fees, thereby

being equally profitable to himself, and much to the advantage of his patients.

The physician that can in a large measure diagnose diseases is the man in his profession that is justly preeminent and commands admiration, and this is as it should be, as this enviable altitude is only attained by that industry which knows no tire, and that interest which knows no abatement.

The Treatment of Puerperal Eclampsia with a Report of Cases

F. S. CLARK, A. M., M. D., CLEVELAND

In obstetrics, perhaps more than in any other department of medicine or surgery, we are frequently confronted with the sudden onset of complications which seriously endanger the life of both mother and child. No one of these complications is more serious or more to be dreaded than eclampsia. Fortunately it is not a frequent complication, occurring only once in 250 to 400 cases, according to different observers, but the mortality is high, ranging from 20 to 30% for the mothers and 50% for the infants. Nothing but our best efforts will be sufficient to overcome such a mortality.

If we would treat a disease satisfactorily we must know its cause. While this is not definitely known in the case of eclampsia, the many theories advanced in the past as to its cause have gradually been giving way to the belief that the convulsions are due to the presence of some toxin in the blood. The failure of the kidneys to perform their functions suggested the possible etiologic relationship of urea, a factor which is no longer considered as the sole cause. The failure of the kidneys, however, does aid in the accumulation in the blood of the causal toxin whatever it may be. These are questions that future investigations must settle. Tonight I wish to limit myself to a discussion of the treatment of eclampsia.

Eclampsia may occur during pregnancy, labor or the puerperal state and its treatment must be modified accordingly, but, without waiting for the onset of convulsions, there should be vigorous prophylactic treatment as soon as any symptoms occur to warn us of danger. These symptoms are rapid pulse with high tension, headache, gastric disturbances, difficulty in seeing, swelling of the feet, hands and face, decrease in the amount of urine and the presence of albumin. All of these are not present

in each case, and it is well to remember that because albumin is absent we are not necessarily free from danger. The mere examination for albumin is not enough. We must watch for the other symptoms. An estimation of the solids excreted during 24 hours is especially valuable, though it is difficult to make with accuracy. If these are found to be decreasing, appropriate measures should be taken to restore the normal conditions. Sometimes many of the above symptoms may be present without convulsions occurring, or, on the other hand, most of them may be absent and convulsions occur suddenly. As in all diseases, there are cases which are so rapidly fatal that nothing can be accomplished. There are also cases that are so severe that most thorough prophylactic measures will fail to stop the occurrence of convulsions, but it will probably postpone them to a time when the danger will be much less, for the mortality is lower during and after labor than before.

Accurate information regarding the origin of the toxin would be valuable in directing the prophylactic treatment. Experience shows that beneficial results follow the restriction of food just as in uremia, so that an exclusive milk diet is best. In the milder cases, if it is possible to tell which are to be such, slight additions could be made of some of the least harmful foods. Winckel says that light meats could be given, but this hardly seems wise.

Our efforts, as far as possible, must be directed toward freeing the system of those toxins which are already formed. The failure of the kidneys indicates our best guide to the line of treatment that should be adopted to accomplish this result. For diuresis, mild alkalin waters are the best and should be taken freely. The potassium salts are apt to be irritating, and it is better not to use them. In addition to this, stimulation of the functions of the intestines and skin is of course invaluable. The bowels should be moved freely every day by the use of some laxative if needed. Phosphate of soda in small doses is effectual and especially good because of its mild action on the liver. Occasionally it may be wise to take a cathartic dose either of this or of one of the other salts. High injections of salines aid by flushing out the bowels. A warm bath should be given each day to keep the skin in good condition. When these means fail and the symptoms grow worse the production of labor is indicated, and it is not wise to delay unnecessarily.

As has been said, prophylactic treatment sometimes fails, while in other cases no precautions have been taken and we

are suddenly confronted with convulsions. Now, more than ever, most vigorous treatment is necessary to save our patients. First and most important of all we must eliminate the toxins from the system, and second, we must control the convulsions. If the convulsions occur before or during labor the uterus should be emptied at once. Occasionally there are cases in which the convulsions can be controled and the cause removed without terminating labor but, in attempting this, we are running great risks, for if we find our efforts to remove the cause and so to control the convulsions fail, we have lost valuable time and greatly diminished the chances of our patient's recovery. It would seem far better to risk losing a premature child with correspondingly brighter prospects of saving the mother than to increase the risk of losing the mother with very little decrease of infant mortality. The uterus should be emptied by manual dilation of the os or incisions of the cervix, if need be, the child being delivered with forceps. The growing tendency on the part of the surgeon to recommend Cesarian section instead of the more reasonable obstetric operations cannot be recommended. The results following this operation for eclampsia are anything but flattering and the skilful obstetrician can obtain far better results by the old methods.

After the uterus is emptied the treatment is the same as when the convulsions do not occur till labor is normally terminated. If we must empty the uterus it is wise, while this is being done, to begin our treatment for the elimination of the toxins. This may save valuable time. In most cases the patient will soon become conscious after the first convulsion or so nearly conscious that she can swallow. She should immediately be given a dose of magnesium sulphate or calomel in order that the action of the bowels may be started as soon as possible. At the same time the remedy of choice should be given to control the convulsions. The best of these are chloroform, chloral, veratrum viride and morphin. I look upon chloroform as valuable only to hold the convulsions in check until the other remedies can take effect, but for this it must be used continuously and not intermittently as usually given. To give it only when the convulsion begins does not accomplish much, for the convulsion is over before the patient is under the effects of the chloroform. Chloral has unquestionably been most in favor for controlling the convulsions. It has not always accomplished what was expected of it, but this is often because it has not been used in large enough doses. The tendency to convulsions is hard to over-

come, and when it exists the system will stand enormous doses. The small doses so frequently given are of no avail. I would give, as the smallest dose, 25 to 30 grains by the mouth, or 50 to 60 grains by the rectum, and repeat it in from one to four hours, if necessary.

Veratrum viride is a favorite drug with many. I have used it and felt that it was unquestionably effective. When the pulse is strong and of high tension the giving of frequently repeated doses of veratrum viride until the pulse is reduced to 60 or 65 beats per minute will often be effective. Morphin, which has always been condemned in cases of renal insufficiency, is being used by a few with surprising results. Stroganoff reports 58 cases without a death. He gives one-fourth of a grain hypodermically immediately following the first convulsion, and repeats this once or twice at intervals of an hour according to the severity of the case. He then gives, in two hours, 20 to 30 grains of chloral, repeating the dose in from four to six hours as is needed to keep the patient drowsy for 48 hours. If the convulsions return he repeats the morphin. He looks upon eclampsia as a self-limited disease of 48 hours duration and considers that if the convulsions can be controled and the heart sustained during this time the patient will recover.

In a recent copy of the *Glasgow Medical Journal* Weit is quoted as having used morphin in 60 cases with two deaths. The Rotunda Hospital, Dublin, is reported in the same *Journal* as having treated 26 cases with chloral and chloroform and lost eight cases. They also treated 17 cases with morphin and lost three cases. These figures are most encouraging, and if further treatment by this method results as favorably much of the prejudice against morphin will be removed. As in all methods employed great care must be used and each case carefully studied. While using these remedies we must be just as energetic in our attempts to reestablish the functions of the various organs which can aid in eliminating the toxins present in the blood.

As has already been said one of the first remedies given should be a cathartic, my preference being a saturated solution of magnesium sulphate. An enema should be given as early as possible. It flushes the lower bowel, removing such toxins as may be there, and cleanses the mucous membrane so that it will the better absorb remedies if the patient cannot swallow them. Calomel is a good substitute if the salts cannot be obtained at once.

To promote the action of the skin the wet hot pack is frequently effective, but it may be slow to act or fail entirely.

Pilocarpin is not generally advisable because of the danger of pulmonary edema. A valuable remedy to promote diaphoresis is the subcutaneous injection of salt solution, but its greatest value is that it produces diuresis. Ordinary diuretics are of no avail at such a time. Enough cannot be given to be effective, and they are more likely to prove an irritant to the kidneys if we give them. Water cannot be given in large enough quantities to be effective, but by using a saline solution subcutaneously we introduce into the system large quantities of fluid which will be rapidly absorbed, and cause, in most cases, profuse diaphoresis and diuresis. Flushing the bowels with such a solution and leaving a quantity in the colon to be absorbed is also beneficial.

Some advocate bleeding when the pulse is very full and strong. Others claim that just as good results can be obtained from *veratrum viride*. I have had no experience in blood-letting, though one case reported tonight had been bled before I saw her. After bleeding, the free use of salt solution used subcutaneously should be very effective. Intravenous injection of saline solution should be given cautiously, as there might be great danger of over-distension of the heart.

Among other remedies used are nitroglycerin and of late thyroid extract. These do not offer any special advantages not found in the remedies already mentioned, though the thyroid is especially recommended for its diuretic effect.

Within the past few months I have seen three cases of eclampsia which presented the most serious phases of this symptom complex. A report of them may aid in emphasizing some of the points mentioned above. Two of the cases I did not see until after there had been convulsions. The third I had under my observation for three weeks previous to labor, but in spite of the greatest care she had convulsions, though not until after labor was terminated, which, considering the conditions found when the case was first seen, was more than I had dared to hope.

Case I: Mrs F. was seen in consultation with Drs C. and W. She was 27 years of age and had had one child. While carrying it she had edema of the legs and had noticed some puffiness of the face. She did not become pregnant again until four years later. The last menstruation was in September, 1901. The progress of pregnancy was apparently normal until April, 1902, when she began having severe headaches and also swelling of the ankles and face. The headaches became more severe until May 12, when she had a convulsion which was followed by three more in an hour. Under chloroform anesthesia the os was dilated manually by Dr

C., and a living child was delivered with forceps two hours after the first convulsion. After this the patient became conscious but in an hour had another convulsion, followed by nine more without the recovery of consciousness. The last one was 12 hours after delivery and the patient did not again become conscious, dying 18 hours later or 32 hours after the first convulsion.

When I saw her, 14 hours after the first convulsion, I found that she had been given two doses of a mixture containing chloral, bromide, hyoscyamus and cannabis indica per rectum. Chloroform was given at intervals. Hot packs failed to produce sweating and a hypodermic of pilocarpin was given, also veratrum viride, after which there was profuse sweating. She had also been bled, but the amount withdrawn is not known. There had been no action of the bowels or kidneys. No cathartic had been given. The patient was unconscious and had what proved to be her last convulsion while I was in the room. Because of the continual recurrence of the convulsions it was deemed best to give a hypodermic injection of morphin. Two lines of treatment were urged, one to obtain free catharsis and the other to use subcutaneous injections of salt solution. The cathartic was not given till the next day or 26 hours after the first convulsion and no result was obtained from it. Three pints of saline solution were given subcutaneously, but, with other treatment, failed to save the patient. There had been no examination of the urine until after the first convulsion when the patient was catheterized. The urine obtained was examined and showed a large quantity of albumin and casts.

Case II: Mrs K. was seen in consultation with Dr S. who gave me the following facts: She was a multipara, having had one child and two miscarriages. The cause of these is not known. The child died when five days old. The previous pregnancies were apparently normal. In the present pregnancy the patient did not know just when she last menstruated but thought she was about six and one-half months pregnant. The pregnancy was apparently normal up to a short time previous to the onset of the convulsions when she called her physician because of headaches. At this time he made his first examination of urine which showed the presence of albumin, and he immediately began treatment accordingly. Previously several attempts had been made to have urine sent for examination but various combinations of circumstances prevented any being obtained.

About 9 o'clock on the morning of June 10 she had a convulsion and a second one at 11:30. I saw the case at 12:30. The patient was still unconscious from the last convulsion. Her pulse was 96 and was full and strong. She had been given one-fourth of a grain of elaterium and one grain of calomel. Chloroform was administered in the attempt to prevent further convulsions. Immediate delivery of the child was advised and after careful preparation of the patient the os was dilated. At first it just barely admitted one finger. When dilated sufficiently to admit two

fingers I found that the placenta was attached low down to the posterior wall of the uterus. The slightest efforts to dilate the os loosened the edge of the placenta but the hemorrhage was controlled by pressing down the head from above the pubes so that it compressed the placenta. This made it more difficult to dilate the os but at the end of an hour I was able to apply forceps and deliver the child. The baby, about a seven months' child, was put into an incubator three hours after delivery but died four hours later.

The after-treatment of the case consisted of 20 grains of chloral every three hours and three doses of veratrum viride of 10 drops each at half-hour intervals which reduced the frequency and volume of the pulse. The larger doses of chloral were not given because of the use of veratrum viride. One quart of saline solution was used subcutaneously. About six hours later a hypodermic injection of one-fourth grain of morphin was given by her physician because of her restlessness. There were no drawbacks in the progress of the case and she made a good recovery.

Case III: Mrs A. was the wife of a physician. She had had one child, the pregnancy and labor being normal. I was asked to take charge of the case about three weeks before labor was expected. The pregnancy appeared normal up to three weeks before this, when swelling of the face and hands began. There had been swelling of the ankles before this. Examination of the urine showed albumin. When I first saw the patient her legs were swollen to nearly double their normal size. The face and hands were swollen and there was some edema of the labia. There was also headache and some difficulty in seeing. The quantity of urine, for 24 hours, was a pint and a half. Examination of it showed one-half volume of albumin, hyalin and granular casts, leukocytes and some red blood-cells. That the history may not be too long the report of the many examinations will be omitted. The patient's diet was restricted to milk with only slight variations, she was given large quantities of lithia water to drink, the bowels were kept free, and a warm bath was given each day, with the result that there was almost complete relief from headache and the swelling of the face and hands and legs diminished markedly. The urine was increased to three and sometimes four pints a day, casts and red blood-cells almost entirely disappeared and albumin decreased to about one-third volume. At the beginning of the treatment improvement came so slowly that the advisability of producing labor was considered. This, however, was not done and labor began about three weeks after treatment was begun. It lasted 17 hours and was normal. Chloroform was used, but not extensively, during the last three hours. There was no headache or other bad symptoms during labor, though immediately following there was some dizziness. About four hours later headache began. Fearing that this might be the forerunner of convulsions the patient was given 10 grains of chloral and this was repeated in a couple of hours. Seven hours after labor her tem-

perature was normal, and on catheterizing about one pint of urine was obtained. Examination of this specimen showed an increase of albumin to about one-half volume. In response to a telephone message, that the headache persisted, a small dose of phenacetin was suggested, which almost instantly stopped the headache. For an hour the patient felt very well, when without warning she had a convulsion. Chloroform was given by the doctor and when I saw her soon after she was given 25 grains of chloral by the mouth. Though the bowels had moved freely before labor half an ounce of magnesium sulphate was given by the mouth. Chloroform was given till the chloral had had time to act. She slept two hours and on rousing was given 10 grains of chloral by the stomach and went to sleep again but wakened in an hour and had another convulsion. Fifty grains of chloral were given per rectum. In spite of this she was very restless and one-eighth grain of morphin was given hypodermically and repeated in three hours, keeping the patient quiet for several hours. Immediately following the first convulsion a saline solution was given subcutaneously. It was given at intervals till she had had four quarts. A wet hot pack was used but accomplished very little. After absorption of about three quarts of saline solution she began to perspire very freely. Twelve hours after she was first catheterized another pint of urine was obtained. She was allowed to go so long because she was quiet and it did not seem wise to disturb her. An enema had been given earlier in the night and the bowels began moving freely. From this time on the patient's condition improved and she made a good recovery.

I have given the details of this case more fully than the others because I had greater opportunity of watching it both before and after the convulsions.

In comparing the three cases it will be seen that each presented early symptoms of danger. In the first case no examination of the urine had been made previous to the first convulsion but there were other symptoms which were very suggestive. In Cases II and III the first examination of the urine was not over three weeks before the occurrence of the convulsions. These cases illustrate the need of an early examination of the urine in every instance. Whether Case I would have been saved if this had been done we cannot say. Her chances would have been improved. It is certain too that the chances of Case III would have been very much decreased if she had not had vigorous treatment for the three weeks preceding labor.

The treatment of Cases II and III was the same as Case II after delivery. In each very free action of the bowels was obtained as soon as possible after the first convulsion while in Case I nothing was given for 24 hours and no action was obtained. In Cases II and III sufficient chloral and morphin were

given early to keep the patients under control and salt solution was given so that the kidneys and skin acted freely. It does not follow that if these same means had been used early in Case I that there would have been fewer convulsions or that the patient would not have died, for cases may die in spite of the most vigorous treatment.

I have compared these cases, not to criticize or commend the treatment used in either, but to emphasize if possible the need of thorough treatment at the very beginning of convulsions. My experience not only in these cases, but in others which I cannot take time to report, is that there is too great fear of overdoing the treatment of eclampsia with the result that far too little is done. It is only large doses that will control convulsions, and they must be given promptly and fearlessly. This is one of the points I wish to urge as strongly as possible and which has led me to present this paper.

There is another point that is even more important but only because, by enforcing it before the convulsions occur, the first one mentioned will seldom be needed, that is prophylaxis. In every paper I have written on any obstetric subject I have urged that greater attention be given to obstetric cases in the preparation for confinement. The patients themselves do not appreciate the value of it and they never will if they are not instructed by their physicians, for so many cases terminate normally that a false feeling of security is the result. In no single case can we predict that we shall escape without a convulsion, therefore in no one case are we excusable if we leave undone those things which will in all probability warn us of impending danger. I realize that it is hard to get specimens of urine to examine and to always determine positively from them that danger exists. I realize that, in spite of watchfulness, eclampsia sometimes occurs without any apparent premonitory symptoms. I have had such experiences. These experiences, however, should lead us to be even more thorough in our cases or we had better not undertake them. A mere examination of the urine for albumin is not sufficient, for convulsions may occur when it has been absent, but a careful study of each case will seldom fail to give us some warning, even though slight, in time to adopt effective prophylactic measure.

The following case seen with Dr G. since reading this paper further illustrates the treatment recommended. The patient had been under the Doctor's observation for some time because of albuminuria. About the end of the seventh month she had a con-

vulsion, followed by another in half an hour. A hypodermic injection of veratrum viride reduced the pulse from 130 to 80. When I saw her an hour and a half later a hypodermic injection of morphin was given. Urine obtained by catheterization became solid on boiling. Under chloroform the os was manually dilated and the child, which was dead, was delivered. Two quarts of saline solution were given subcutaneously and medical treatment as above outlined was carried out. There were no more convulsions. Forty-eight hours later there was a serious failure of the heart's action, which was overcome after a few hours, but with this exception the patient made an uninterrupted recovery.

348 Dunham Avenue

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Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

Puerperal Sepsis: Edward P. Davis states in the *Philadelphia Medical Journal* for May 23, that the method of treatment of proven value in this condition is, first, to thoroughly cleanse the uterus and vagina, using every precaution to avoid opening channels for fresh absorption of septic material and removing gently and thoroughly possible infective material within the uterus. Cold to the abdomen over the uterus, combined with counterirritation by a turpentine stupe large enough to extend from the pubes to the umbilicus, over which an icebag is placed, is, in his experience, the best method for combating pain in the abdomen in these cases. For the prompt and thorough emptying of the intestines salts are of value, but he prefers the compound cathartic pill. Medication should be limited to those drugs which act as tonics and stimulants to the nervous system and produce contraction of the uterus. Strychnin and ergot are most valuable and should be given together every four to six hours until distinct improvement has occurred. Alcohol is the best internal antiseptic, and the only limit to its administration here is the patient's capacity to absorb it without intoxication. All septic patients must be liberally fed, and the use of normal salt solution by bowel or hypodermoclysis should be followed in all serious cases. Methods of treatment which must still be considered as experimental are the use of antistreptococcic serum, the use of nuclein to produce increased leukocytosis, the use Crede's silver ointment, and the intrave-

nous injection of formalin. Methods of treatment which he considered injurious are, first, to give a septic patient drugs to reduce the temperature, as no drug controls the temperature without depressing the patient. He prefers the use of cold and the administration of alcohol or hot sponging followed by the use of alcohol. Another source of useless and injurious drugging arises from the anxiety of the physician to stimulate the heart. There are times in septic cases in which the value of digitalis becomes evident, but its use is seldom necessary if the patient's nutrition is properly secured. Drugs are also used injuriously in these cases when an effort is made to check the purgation which Nature often sets up, and it is also seldom necessary to give drugs to procure sleep in these cases. Dr Davis strongly emphasizes the mistake of repeated intrauterine manipulation, as well as the dangerous results following the use of bichlorid of mercury within the womb. After the uterus is emptied lysol 1%, creolin 1%, or normal salt solution, should be chosen. He has never seen nor known of a case of iodoform poisoning from the use of iodoform gauze within the puerperal uterus.

Hyoscin: George E. Pettey, in the *Medical News* for February 28, asserts that in his experience no remedy for any disease fills an indication more perfectly or gives better results than does hyoscin in the treatment of morphinism. He believes that the gradual reduction method of treating morphinism should be discarded as useless and even hurtful, and the painful symptoms attendant upon the abrupt withdrawal of morphin have a natural limit of a few days duration. By the use of hyoscin these days may be passed in comfort and the patient enabled to escape the nerve-strain and shock that would necessarily have attended such an ordeal of suffering. He further states that hyoscin not only occupies, but fills, when properly used, as important a place in the treatment of morphinism, as does chloroform or ether in the practice of surgery. Hyoscin is unfit for prolonged use, but with proper discretion and proper dosage it can be as safely used as any other narcotic.

Hypodermoclysis: R. C. Kemp, in the *New York Medical Journal*, (quoted in *Monthly Cyclopedia*) recommends the following precautions in using the saline infusion: (1) Allow the fluid to flow slowly, so that the tissues may not become overdilated, and that absorption may readily occur. (2) To avoid the entrance of air into the tissues, the fluid should flow from the needle at the moment of puncture; also the vessel containing the fluid should never be allowed to become completely emptied. (3) Do not inject directly into the edematous tissue; dropsy of the organs or serous cavities is not a contraindication to hypodermoclysis, which is of value in aiding elimination by its diuretic action. (4) Regarding the needle employed, it should be pushed in semiobliquely and steadily, and not plunged in suddenly. Beware of injuring vessels

and nerves. It is not advisable to inject into muscular tissue, as painful lumps, or abscesses may result. (5) If the flow from the needle ceases, push it in slightly and then withdraw it a little or rotate it. This will generally free it from the obstruction.

Suprarenalin: *American Medicine* calls attention to the value of the adrenal preparations in the treatment of that variety of asthma associated with lowered vasomotor tone. The great difficulty has been in the administration of the drug. Taken into the stomach, it often fails; it must be absorbed from the tongue or given hypodermically in order that the best results may be obtained. Recently Abel's epinephrin has been placed on the market under the name of "suprarenalin." It comes in the form of a powder and also as a solution, in the latter form having the same powers and applicabilities as the adrenalin chlorid solution. It is a powder which, however, is admirably adapted for internal use. Placed on the tongue it is quickly and effectively absorbed, the pulse becoming more full and tense in less than 60 seconds after one-eighth grain is placed on the tongue of a normal adult. One-half grain produced transient ill effects, throbbing of the temporal arteries with a tendency to nausea, etc. Powders of one-twelfth of a grain of epinephrin in sugar of milk were given to a patient suffering with vasomotorial asthma; the powders were taken every hour at first, then every second hour, then every third hour, with the apparent effect of preventing a return of dyspnea. A suitable form for administration would appear to be tablet triturates containing .003 gram and .006 gram (1-20 grain and 1-10 grain) of epinephrin with the least quantity of sugar of milk needed to give minimum bulk. These would probably dissolve readily and would be even more convenient for lingual or buccal administration than powders or solution. In a number of other conditions associated with lowered vasomotor tone, adrenal therapy is indicated and usually effective.

Scarlet Fever: Eugene Cohn in the *Medical World* for April considers that in the treatment of scarlet fever, the three most important points to be considered are the strength of the heart, the functions and conditions of the excretory organs, especially of the kidneys, and lastly, the temperature and its accompanying delirium. He has combated to a great extent all three of these dangers by one remedy, namely, the high rectal injection of normal salt solution. The temperature of the solution used is 110° F. The injections are given every three or four hours with a colon tube, the fluid being introduced slowly and as high as possible with the patient lying on the right side, the hips elevated higher than the head. The amount used varies from six ounces to a quart according to the age of the patient. The solution is usually readily retained, if introduced in this manner, but should there be trouble in its retention a few drops of the deodorized

tincture of opium, added to the injection will prove efficient. Within 20 minutes to an hour after this procedure the child will usually be found more restful, the skin moist, and the temperature reduced one to three degrees. He has not found it necessary to use the solution subcutaneously or intravenously having so far succeeded in all his severe cases by its rectal use.

Opium: H. W. Syers, in *Treatment*, (quoted in *New York Medical Journal*) believes that among the valuable remedies which have been neglected is opium—opium as such. It is of the greatest value in many conditions. In those cases of typhoid fever in which the nervous system bears the brunt of the disease and in cases exhausted by frequent diarrhea, opium is especially indicated. The best form of administration is solid opium given in freshly-made pills. The amount taken should be regulated by the effect produced. As a matter of fact most typhoid fever patients are overfed, and are given far too much stimulant. In cases in which bronchitis is a formidable feature of the disease, the use of opium is of course contraindicated. In lobar pneumonia the omission of opium may be attended with disastrous results. This drug gives a refreshing sleep and tides the patient over the anxious period just before the crisis.

Ichthalbin: In *Merck's Archives* for April Julian Marcuse gives the following conditions as indications for the use of ichthalbin, the albumin compound of ichthyol; chronic intestinal catarrh, dermatoses of reflex and atrophic character, complicated by intestinal disturbances, where it is indicated as a disinfectant, and all chronic wasting diseases, such as tuberculosis, scrofula, chronic pneumonia, etc., where it is of service as a tonic and albumin conservative. In eight tubercular cases there was a remarkable increase of the appetite after three to eight days, the general condition and body weight improving considerably. In four cases of scrofulous and emaciated children, ichthalbin given instead of cod liver oil gave entirely satisfactory results. The dose for adults is 0.5 to 1 gram ($7\frac{1}{2}$ to 15 grains three times a day before meals), for nursing children, 0.1 to 0.3 grams ($1\frac{1}{2}$ to $4\frac{1}{2}$ grains given in broth). It may also be given to children in grated chocolate.

Sodium Salicylate: In the *Journal of the American Medical Association* for April 18, C. G. Chaddock calls attention to the value of salicylate of sodium in the treatment of Basedow's disease. In the case reported, a woman 28 years old, improved promptly under the use of the drug and after three months treatment the tremor had disappeared, the heart was beating at a rate of 80 pulsations a minute and there were few nervous symptoms. The goiter was still present though reduced in size. Two other cases are reported in which improvement followed the same line of treatment. Thirty grains daily of the salicylate were given. The precautions to be observed are a pure salt, care to observe the condition of the kidneys, and care to avoid irritation of the stomach.

Quinin: The *Therapeutic Gazette* for April asserts that many practitioners believe that quinin, if administered in full dose, is capable of producing abortion, although others claim that where abortion follows its use the real cause is the malarial paroxysm from which the patient suffered. Maggi reports 20 cases in *La Clinics Obstetrica*, in which quinin was administered freely to pregnant women without, in any instance, producing abortion. He believes that it should always be given when malarial fever affects such patients, and that the danger from the malarial infection is far greater than the danger from the quinin; indeed when quinin was given to pregnant women suffering from malarial fever it was noted that the infants were usually healthy and robust. Betti indorses this view and agrees that quinin should always be given to pregnant women suffering from malarial infection, the fetus and the mother thus being protected, and their general health improved.

Internal Secretions: O. T. Osborne in the *Medical News* for April 4 states that the thyroid gland seems to be the one that has most to do with the health of the skin, keeping it soft and pliable and causing the normal amount of insensible perspiration. Normally the thyroid begins to atrophy from 45 to 50 years of age. The advent of old age allows the skin to become dry, harsh, rough and perhaps shrivel or wrinkle. In this condition in old age and where there has been scaly eczemas due to dryness of the skin he has found thyroid to be one of the best of treatments. In cases of arteriosclerosis, where nitroglycerin in small doses is of value to reduce the dizziness, sleeplessness, headache, and possibly asthma, he has found thyroid of benefit. The iodids so much used to meet these conditions have been proved stimulant to the thyroid secretion. He has found that in delayed menstruation with or without anemia, no drug is as efficient in causing normal menstruation as thyroid extract given in three-grain doses three times a day.

Sodium Glycocholate: H. Richardson in the *Therapeutic Gazette* for December, 1902, states, concerning the medical treatment of gall-stones, that cholesterin and the coloring matters are held in solution by the glycocholates and tamocholates, and their precipitation must be due to an insufficient quantity of these substances. He advises the use of glycocholate of sodium by the mouth, as it is absorbed from the intestine increasing the flow of bile and preventing the precipitation of the cholesterin and coloring matters. He believes that in a large majority of cases the further formation of stones will be arrested and those present gradually dissolved by the use of their normal solvent. There is no other drug which can be given which will enter the bile and act as a solvent. Several cases of periodic hepatic colic have been permanently cured by the glycocholate of sodium (5 grains three times a day), the patient for some time continuing to take about two drams per month to insure that there should be no insufficiency.

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EDITORIAL

The New Health Board

The Board of Health appointed by the Mayor under the provisions of the new Code has quietly assumed control of the city's health for weal or woe during the two years to come.

As regards its individual makeup there is naturally room for a great difference of opinion, and there are undoubtedly many who will feel it incumbent upon themselves to criticize the personnel of Mayor Johnson's health staff. In the light of the Mayor's past attitude toward the medical profession of our city this is indeed not to be wondered at, for when it is recalled that upon his first election to office Mayor Johnson suggested the possible appointment of a blacksmith to the position of Health Officer, it is perhaps natural that many should see a somewhat similar attitude in the appointments to this new cabinet.

Whatever may be the popular judgment in this respect, it behooves us as a body to meet every advance made by the Mayor toward medical reform and better sanitary government, and to lend our unstinted support to the two professional as well as to the lay members of our new Board. The city is to be con-

gratulated and Mayor Johnson should receive the appreciative thanks of every physician in our city for the appointment of Dr Rosenwasser upon this staff.

A point that seems to us of even more vital interest just now than the individual makeup of our new Board of Health is the strange provision which makes our Health Officer with a salary of \$3,600 the servant of a servant. Unless we have been misinformed the chief officer of the Board is to be subject to the direction of a Secretary who is paid the nominal salary of \$1,200 a year. *O tempora! O mores!*

The Typhoid Epidemic

According to the returns of the Board of Health the number of cases of typhoid fever in Cleveland has been on the increase during the past two weeks. When we consider the tremendous rain-fall which we had during the month of June and the disturbed condition of the Lake incident thereto, it is perhaps not surprising that the increase in the number of cases should be so large.

The physical conditions prevailing for the past four weeks have been ideal for an outbreak of typhoid fever in its most virulent form. The vast amount of sewage from the city has been swept out into the Lake in a way that must appall a sanitary expert when he is told that we drink this dirty water. For the greater part of the rainy season just past we have needed no greater proof and no stronger argument for an improved water-supply than the evidence afforded every time a faucet has been turned on anywhere in the city.

It is to be hoped that the much-talked-of and much-discussed filtration plant will eventually become a reality.

The Relation of Cockroaches to Typhoid Infection

As modern methods of investigation become more general and the work of tracing the origin of single instances of infection is taken up and carried more frequently to a successful issue by trained observers, we shall undoubtedly learn of many additional and many unusual ways by which infections may be carried from individual to individual.

It has been shown by the Japanese observers that fleas and bed-bugs may be active factors in the transmission of the plague. Hamilton has only recently demonstrated that ordinary house

flies may be the accidental carriers of typhoid infection, and what should be a more natural addition to the already long list of flies, mosquitos, fleas, and bed-bugs than the hitherto harmless cockroach as a carrier of infection and death.

In a recent article (*Medicine*, 1903) Englemann cites in detail the history of an epidemic of typhoid fever in a high-class apartment house in Chicago in which the clinical evidence pointed conclusively to the conveyance of infection by cockroaches. The origin of the first case could not be accurately determined, but the subsequent four cases developed in sequence, and coincidentally, following a sudden plague of cockroaches which came from the apartment in the tier of the building occupied by the first case. Bacteriologic proof is of course wanting, but the clinical evidence is strong and the presumption justifiable, and under the premises sulphur fumigation for vermin is indicated, as suggested.

The Organizat on against Tuberculosis

The very general public interest which has been aroused during the last five years concerning the dangers from tuberculosis as a communicable disease, has without doubt been a tremendously potent factor in facilitating the organization for combating this great so-called "white plague."

We believe that in no other direction in the education of the public, always a slow process, has so much good been accomplished, so much real sanitary progress made, as is true of the results achieved in the crusade which is being waged on all sides against tuberculosis.

Without the education of the masses we can accomplish but little, and paradoxical as it may seem we must often first reeducate the so-called upper classes, lest in their wild dread of the very word tuberculosis, the most hopeful feature of the modern treatment of tuberculosis, in sanatoria, may be defeated in any given locality. Greater good, however, is to be looked for as a result of the education of the public in reference to prophylaxis and hygiene.

At the meeting of the Ohio State Society for the Prevention of Tuberculosis, held in Cleveland during the month of June, a number of most interesting papers were read, and ways and means discussed for the better elucidation of the problems confronting us along this line. We note with pleasure the reelection of a layman as president of this Association for the ensuing year.

The field of work to be covered is so large and includes such diversified interests that the Society is to be congratulated in securing, as in the past, the interest of an enthusiastic lay executive. In our judgment no single field of work is more important than that which is being carried forward by this Society, which should have the enthusiastic support of every physician in the State.

Fraudulent Catch-penny Medicine

It is, we doubt not, quite hopeless to look for the millenium in these first years of the twentieth century. Just so long as there are individuals who can be reached by the revolting advertisements constantly displayed in the daily press, it is not surprising that there should be a credulous public easily caught by more decent schemes to deceive, though often even more fraudulent.

It is a strange condition of affairs, but none the less true, that any active campaign having for its purpose the education of the public upon important hygienic subjects is at once made use of by the unscrupulous and often with great material success.

The agitation upon the danger from tuberculosis, incident to every-day life, has been far-reaching. It is perhaps not natural that the name of one of the world's most distinguished scientists, known to rich and poor alike for his connection with the work upon tuberculosis, should be used to catch the unwary. That it is nothing short of sacrilege, however, must be admitted by everyone. A case in hand has recently come to our notice in connection with the widely-advertised Koch lung-cure, and may serve as a striking example of the point we wish to make.

Mr A., the subject of rather distressing asthmatic attacks, fell into the hands of this latest "disciple of healing," and in the preliminary "free consultation" was duly impressed with the seriousness of his condition, and the undoubted tubercular character of his fatal malady, which could only be relieved by their methods of treatment.

In order to give the imagination play, three days were allowed for a careful consideration of the gravity of his condition and the importance of undergoing treatment for its relief. If it was decided to accept this charitable offer within the first three days, the fee was but \$40, to be paid, of course, in advance. If, however, the decision to undergo treatment was not reached until after the expiration of three days, the fee jumped up accordingly. Happily, in this instance, the victim was spared by the timely inter-

vention of a small pamphlet published by the New York State Society for the Prevention of Tuberculosis.

In view of these facts we should be spurred to the keenest effort to so educate the masses that they may learn to distinguish the real from the fraudulent.

Amusing Journalism

The *Cincinnati Lancet-Clinic* appears willing to permit the conclusion that it has arrived at that stage of existence when it is "agin the government." In its issue of June 13 there appear 39 inches of editorial fault-finding with the Ohio State Medical Association and its Dayton meeting. Had real defects in organization or management been selected for criticism the result would perhaps have been of service instead of being funny.

Oddly enough 26 inches of this remarkably inaccurate editorial are devoted to a bitter attack on the Association for having, as the *Lancet-Clinic* vividly imagines, ordered that no papers read before the Association can be published elsewhere than in the annual volume of transactions. As a matter of fact while the Ohio State Medical Association, in common with many, if not most, other scientific bodies, has always laid claim to the chief title in all papers read at its sessions, it also has always readily granted to every author permission to publish his paper in the medical press. Readers of the CLEVELAND MEDICAL JOURNAL are well aware of this fact, as we have always published and are now publishing some of the papers read at the State meetings. However, the real amusement of the *Lancet-Clinic's* attack lies in the fact that, fearing that the new By-Laws were too rigid in the claim of proprietorship in all papers presented, the House of Delegates in regular session at Dayton unanimously adopted an amendment to the By-Laws that specifically gives permission to every author to publish his paper in any journal that pleases his fancy. It seems a pity to emasculate in this cruel way all those 26 inches of sarcasm and recrimination, but the "truth is mighty and will prevail," and the *Lancet-Clinic* hurled its 26 inches of discontent at a straw man set up by itself. The immediate collapse of the straw man cannot be charged by the *Lancet-Clinic* to the State Association. Seriously, this JOURNAL regrets that the *Lancet-Clinic* was unable to secure for publication some of the papers read at the Dayton meeting. This JOURNAL, not wishing to take advantage of its competitors by its prior knowledge of the names upon the program for the Dayton meeting, made no request

of any author for permission to publish his paper until after the meeting. A fair field was thus left to the rest of the journals of the State. Since the meeting, this JOURNAL has had no trouble in securing for early publication as many of the papers as it has room for, and only regrets that its space is so cramped as to forbid asking for more of them.

Regarding the membership of the Association, the *Lancet-Clinic*, we regret to state, is just as unfortunately and inexcusably inaccurate. It says: "The Ohio State Medical Society [Association is its real title] is one of the largest in the United States, and yet it has less than 1,000 members all told." Then: "Certain reorganization schemes have been adopted by the exclusive 1,000, and, by the way, the Ohio State Medical Society [Association] has not grown in point of numbers for several years." Again: "Membership not increasing for a number of years indicates a strong weakness in the machinery and its utilization." Recovering from the shock of impact with a "strong weakness," it only remains to point out the facts to the profession. The reorganization of the Ohio State Medical Association has in one year increased its membership from a little less than 900 to over 2,000, and new members are qualifying through reorganized county societies at a rate which makes it almost certain that in a few weeks the roll of members paid up will exceed 3,000 names. It is unfortunate that the *Lancet-Clinic* was not apprised of the facts presented to the general meeting at Dayton by the Councilors on the afternoon of Thursday, June 4, 1903.

An Obituary

In its issue of June 13 the *Philadelphia Medical Journal* announces that it has passed into the hands of the *New York Medical Journal*. The Philadelphia paper has been on the market for two or three months, and has been offered to most or all of the other weekly journals. The announcement of its suspension of publication is therefore not news in journalistic circles.

In his valedictory the editor lays claim to a record of clean editorial conduct, and no one who has watched the paper during the last two and a half years will begrudge him this credit. There is no fault to be found with the editor or his staff when looking for the true cause of death of a once prosperous and influential weekly medical journal. All the difficulty was on the business side. When lay stockholders, actuated by motives hostile to professional journalism, wrested the control of the *Philadelphia*

Medical Journal from the able and upright management of Dr George M. Gould they committed a sin against the profession of medicine. The profession itself was not slow to recognize the true status of affairs, and the brilliant rise of *American Medicine* was accentuated from the beginning by the just as steady decline of the *Philadelphia Medical Journal*. This JOURNAL at the time predicted the issue that now lies finished before us. Honorable editorial conduct could not in the nature of the case stem the tide of popular disapproval of the methods and motives that filched from Dr Gould the control of his own journal. With this lesson written so plainly in the records of medicine in America lay publishers of uncertain motives will be most chary of venturing capital in an enterprise that runs counter to professional sentiment.

All the great body of physicians interested in maintaining high professional ideals will sincerely rejoice in the fact that the most striking feature in the result of the Philadelphia test of the two opposing ideals of journalism—the commercial and the professional—is the splendid prominence in professional affairs that it gives to the admirable figure of Dr Gould. He has been completely vindicated in his long and trying contest for professional control of professional journals. His victory is not personal, and is least so regarded by his friends and himself. It is the victory of a great cause brilliantly led.

“Life Members” of Medical Organizations

Among certain medical societies there has prevailed in the past the plan of permitting all members who have paid dues for 25 or 30 years to be put on a roll of “life members.” This “life membership” continues all the privileges of active membership except that of payment of dues. In the case of physicians who have been unfortunate, having failed to acquire a competence or to hold a remunerative practice, this plan has some attractive features. For all other members the plan is disadvantageous to the profession. The pressure of society dues always falls hardest on the beginner, and to enable the successful member to escape his share of professional burdens can hardly be looked upon as wise policy. To carry in good standing on the books all the older men who have been unfortunate would be both charitable and admirable. How the veteran of 25 or 30 years, who feels the self-respect that accompanies some measure of success, can bring himself to accept the charity of the fellow-members of his profession is not easy to comprehend. The fact is that the method is more

or less demoralizing. The intention of kindness to the unfortunate is good, but it has been nearly lost sight of in the application of the rule. Hereafter the provision should be so arranged that those who are in need may be aided, while none who are in comfortable circumstances may be enabled to escape their share of the general burden, unless indeed by a commutation payment of one lump sum of money. Dead timber is not profitable.

While upon this subject, the additional fact should not be overlooked that a certain number of members look upon a "life membership" as a badge of honor, indicating their continued support of medical organization for a generation. This aspect of the "life membership" is admirable, and a method should be devised for effectively offering some reward for faithful service in the ranks. It certainly does seem, however, that this should not take the form of exemption from further payment of dues, except when circumstances make it necessary. By removing the monetary consideration the "life membership" then could be made a real honor. As it is now, the money consideration places in the background, to greater or less extent, the distinction that should always be accorded the veteran.

Book Reviews

AMERICAN EDITION OF NOTHNAGEL'S PRACTICE

Among the many systems of medicine published none has quite filled the place, as a work of ultimate resort, accorded the series of monographs edited under the careful supervision of Professor Nothnagel. We venture the assertion that every English and American physician with a reading knowledge of German is thoroughly familiar with this work as published in the original. The fact that there has always been a large body of students of medicine as well as physicians to whom the original text has not been accessible has led, happily, to the publication of this authorized English translation under the general editorial guidance of Dr Alfred Stengel. It is quite unnecessary to call attention to the thorough way in which this work has been edited and adapted for use by American students and physicians. That Dr Stengel has been exceedingly fortunate in his choice of editors for the individual volumes is self-evident.

Volume I, Typhoid Fever and Typhus Fever, by Dr H. Curschmann, Professor of Medicine, Leipsic; edited with additions by William Osler, M. D., Professor of the Principles and Practice of Medicine, Johns Hopkins University, Baltimore, Md. Authorized translation from the German under the editorial supervision of Alfred Stengel, M. D., Professor of Clinical Medicine in the University of Pennsylvania. W. B. Saunders & Company, 1901. Philadelphia and London.

It was indeed fortunate that the adaptation of Professor Curschmann's monographs on typhoid and typhus fever for

English and American readers should have been assigned to that master of medicine, Dr William Osler. No one in America has done more to interpret the significance of the constantly shifting variations from a given type seen in the course of typhoid fever than Osler and his school of workers carefully trained in the finer methods of diagnosis and research. The translation of the original text has been carefully and sympathetically executed, and had there been no editorial additions to this monograph the translation in itself would have been a tribute to the clearness and thoroughness with which the interpretation of the German text had been rendered. The work of Mallory on the pathology of typhoid, Thayer's exhaustive studies of the blood, the surgical complications of the disease, based upon Keen's monograph, and all the important recent work upon the bacteriology of typhoid fever have been incorporated in the text. In our judgment these classical monographs have acquired an added value in the wealth of material included and the bibliographic references added throughout the text which make this volume at present the most exact and thoroughly exhaustive single work of reference upon this subject available in English. The binding, paper, typography, and general makeup as a whole leave nothing to be desired.

Diseases of the Bronchi. By Dr F A. Hoffman, of Leipsic. Diseases of the Pleura. By Dr O. Rosenbach, of Berlin. Pneumonia. By Dr F. Aufrecht, of Magdeburg. Edited, with additions, by John H. Musser, M. D., Professor of Clinical Medicine, University of Pennsylvania. Handsome octavo volume of 1030 pages, illustrated, including 7 full-page colored lithographic plates. Philadelphia and London. W. B. Saunders & Co., 1902. Cloth, \$5.00 net; half morocco, \$6.00 net.

Dr Stengel has been fortunate indeed in his choice for editor of this the fourth volume of Saunders' American Edition of Nothnagel's Practice. Dr Musser is so well known to a large body of American students and physicians that it is unnecessary to allude to the careful way in which the valuable monographs comprising this volume have been translated and edited. The original text, so well known and so universally appreciated, has been made even more valuable by many numerous additions bringing the subjects under discussion thoroughly up-to-date. If we may venture to offer a single word of criticism we would suggest that in subsequent editions the section devoted to the treatment of pneumonia may be adapted to meet more specifically the needs of American students and physicians. A work of reference of this sort becomes valuable as a means of last resort, and it is frequently discouraging to find methods of treatment outlined in great detail in such a work, which we have been taught to disregard. The recent work of Hutchison and others on the blood and urine in pneumonia has been incorporated in the text as has also all the most recent bacteriologic work in connection with pleurisy. The

more recent methods of diagnosis by means of the X-ray have been included and are given in sufficient detail. The work comprises a most exhaustive monograph devoted to the diseases of the bronchi and lungs and is indeed a storehouse of information which should find its place upon the reference-shelves of every practicing physician. The illustrations, notably the colored plates and the X-ray half tones, are unusually well executed and add much to the value of the work. The press-work, typography and binding are all the publishers' imprint implies.

Diseases of the Stomach, a Text-Book, for Practitioners and Students, by Max Einhorn, M. D. Third Revised Edition. William Wood & Co., New York, 1903.

This work when it appeared in its first edition was presumably the most authoritative exposition in the English language of the subject of which it treats. The third edition, with additions to and a complete revision of the text, is somewhat larger than the first, but still presents the subject within reasonable compass. We find chapters on the anatomy and physiology of the stomach, the diseases both organic and functional to which it is subject, and valuable directions as to methods of examination, diet, and local treatment in these conditions. On account of the completeness with which the subject is covered in a small space, the work is a most useful guide in the diagnosis and management of cases of gastric disease and of interest both to the specialist and to the general practitioner.

Progressive Medicine, Edited by Hobart Amory Hare, M. D., Vol. I. March, 1903. Lea Brothers & Co., Philadelphia and New York, 1903.

The first volume for 1903 of this well-known review of the recent advances of medicine and surgery preserves the standard set by its predecessors. Under the general subject of surgery we have a discussion by Dr Charles H. Frazier of recent advances of surgery of the head, neck and chest, specially to be mentioned is the review of surgical management of various affections of the heart and lungs. The section on medicine by Dr James B. Herrick is devoted to consideration of certain infectious diseases, diphtheria, dysentery, malaria, pneumonia, acute rheumatism, tetanus and typhoid fever, all of very great present-day interest. The section on diseases of children by Dr Floyd M. Crandall covers the important discussions on the subject which have appeared during the past year. In addition to a review of recent advances in bacteriology and general pathology, Dr Ludvig Hektoen in his digest of the advances made in pathology continues his review of the experiments on the fundamental principles of cytotoxic actions and other specific properties of the cells and fluids in the body, which have appeared in previous issues. The subjects of laryngology and rhinology are reviewed by Dr A. Logan Turner, while that of etiology is reviewed by Dr Robert L. Randolph.

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, M. A., M. D., LL. D., Professor Emeritus of Materia Medica, General Therapeutics and Hygiene in the Jefferson Medical College of Philadelphia, etc. Eleventh Edition. Revised and enlarged. D. Appleton & Co. New York and London, 1903.

Bartholow's Therapeutics is so well and favorably known to the profession, that a new edition simply implies the former standard of excellence. In this, the eleventh edition, the existing state of the therapeutics is clearly and accurately presented. The classification followed is that formerly used and is a practical one comprising (1) the modes in which medicines are introduced into the organism, (2) the action and uses of remedies, and (3) topical remedies. The newer remedies of approved worth are included, and while recognizing the present tendency toward the physiologic side in therapeutics the author believes that empirical knowledge supported by careful clinical work is also an important element in treatment. The indices are complete and the work will continue to be a practical and trustworthy guide for both student and physician.

Medical Jurisprudence, Insanity, and Toxicology. By Henry C. Chapman, M. D., Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College, Philadelphia. Third Edition, Thoroughly Revised, Greatly Enlarged, and Entirely Reset. Handsome 12mo. volume of 329 pages, fully illustrated, including four colored plates. Philadelphia, New York, London. W. B. Saunders & Company, 1903. Cloth, \$1.75 net.

The busy practitioner and student will find this work highly interesting and instructive, especially on account of the briefness, yet completeness, of the author in his consideration of the subject of Medical Jurisprudence.

The section on Insanity is noticeably feeble in text, and also, in the references, most of which are rather antiquated.

The subject of Toxicology, while lacking in the consideration of the use of alcohol in carbolic acid poisoning and of the use of potassium permanganate in poisoning by opium and its derivatives, is generously instructive.

A Manual of Practical Hygiene, for Students, Physicians, and Medical Officers. By Charles Harrington, M. D., Assistant Professor of Hygiene in the Medical School of Harvard University. Second Edition. Revised and Enlarged. Illustrated with Twelve Plates in Colors and Monochrome, and One Hundred and Thirteen Engravings. Lea Brothers & Co., Philadelphia and New York. 1902.

The appearance of a second edition within fourteen months after the publication of the first is evidence enough of the merit of this work, which covers in a very complete and yet concise way the entire subject of practical hygiene. All the most recent work bearing upon the subject has been incorporated in this last edition, including even the most important recent bibliography, which

makes it, in our judgment, decidedly the most valuable single volume upon this subject which we know.

In a work of such general excellence, it is difficult to single out any one chapter or topic for especial commendation, but the chapters devoted to the consideration of foods, water, and habitations are extremely valuable and interesting.

The arrangement and classification of the work is excellent, and it is a volume which should find its way, at once, into the hands of every student as well as physician. The illustrations are admirably executed and add much to the interpretation of the text. The press work, paper and binding are of the best.

Essentials of Diseases of the Ear. By E. B. Gleason, S. B., M. D., Clinical Professor of Otology, Medico-Chirurgical College, Philadelphia; Surgeon in Charge of the Nose, Throat, and Ear Department of the Northern Dispensary, Philadelphia, etc. Third Edition. Thoroughly Revised. 16 mo, volume of 214 pages, with 114 illustrations. Philadelphia and London. W. B. Saunders & Co., 1902. Cloth, \$1.00 net.

Remembering the purpose which this book is intended to serve, a question compend, it deserves commendation and fills its purpose well. It is concise, accurate, and up to date. The illustrations are better than those usually seen in a small book.

A Treatise on Surgery by American Authors for Students and Practitioners of Surgery and Medicine. Edited by Roswell Park, A. M., M. D. Third Edition. Enlarged and thoroughly revised, with 692 engravings and 64 full page plates. Lea Brothers & Company. Philadelphia.

This is a new edition of an old and recognized authority. Perhaps its strongest recommendation is the fact that it follows the second edition after an interval of only two years, and yet bears the marks of advance in every department. While a large portion of the text stands as in the second edition, it has been thoroughly revised and augmented by new matter and illustrated in order to supply a book really abreast with the times.

There is a new chapter on Blood Examination which is well written and will certainly prove a great help to both student and practitioner in obtaining and understanding laboratory results.

It would seem that the great advances in anesthesia by nitrous oxide might warrant recognition in such a work, but the text is almost identical with the former edition and entirely ignores this gas as an agent for producing continuous anesthesia.

The chapter on Surgical Gynecology has been rewritten and enlarged by Dr M. A. Crockett. He has, however, used the illustrations that appeared in the last edition without referring to or explaining them, thus making it rather difficult to learn their meaning.

This work appears in a single volume and makes altogether a very excellent book, especially as a reference.

The Practical Medicine Series of Year Books Comprising 10 Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Volume III, The Eye, Ear, Nose and Throat. Edited by Casey A. Wood, C. M., M. D., Albert H. Andrews, M. D., and T. Melville Hardie, A. M., M. D. The Year Book Publishers, 40 Dearborn Street, Chicago, Ill.

This little book of 320 pages reviews succinctly the work of the past year in diseases of the eye, ear, nose and throat. The names and dates of the publications in which the original articles appeared are given at the bottom of each page, thus making the book valuable as a reference book. This book is one of a series of ten published during the year and reviews the whole field of medicine and surgery. The series is published for the general practitioner but it furnishes many valuable reviews and references for the specialist.

Surgical Anatomy and Operative Surgery for Students and Practitioners. By John J. McGrath, M. D. F. A. Davis Publishers. Philadelphia, 1902.

The avowed purpose of this book is as stated, an endeavor to combine in a practical manner the subjects of surgical anatomy and operative surgery. But for its mention in the preface this endeavor would otherwise easily escape recognition. As viewed from an anatomic perspective this work gains but little commendation; from a surgical standpoint it is manifestly not to be classed with the average text-book of this nature, while from an anatomico-surgical consideration it is devoid of all merit for the reason that the demarcation between anatomy and surgery for the contemplated more intimate association of these two subjects is too distinct, and though there appears to be a certain show of outward method, it is devoid of true logic and deductive sequence between these two subjects. An anatomic description precedes that of the various surgical operations of each region; both are held separate and distinct so that their interrelationship is thereby almost totally eliminated. In a more detailed critical review of this work it is also apparent that the anatomic data contained therein do not pertain to surgical anatomy but to the descriptive branch of this study, the greater portion of which the student or practitioner, if not already cognizant of, can most readily obtain from his earlier elementary college text-books. The accuracy of certain statements is moreover not above reproach. A coracoid process (instead of coronoid process, p. 53 and 60) on the inferior maxillary bone has heretofore not as yet been described. That the Gasserian ganglion is repeatedly and invariably referred to as the "Casserian ganglion" may find partial substantiation in the occasional usage and interchange of these two terms. From the historic aspect of the nomenclature, Gasser and Casser were two distinct anatomists, who lived in separate centuries, so that this usage cannot be termed correct.

From a surgical consideration the work attains the little merit

which is to be accredited to it. The technic of operations is in some instances well and clearly elucidated. It appears, however, more as a compilation of the different operative methods not all too well systematized.

In its anatomico-surgical endeavor it has materially failed, for the reason already assigned, that a sharp demarcation between these two subjects is too distinctly drawn. In all, the work, while probably well serving one of its intended purposes, that of a guide to an operative course, cannot be stated to transcend beyond the cadaver and the dissecting room. As a practical work of reference but a limited amount of knowledge is to be derived therefrom and the reason of its publication is therefore not apparent.

The Public and the Doctor. By a Regular Physician. Published by Dr B. E. Hadra, Dallas Texas. 1902.

The lamentable ignorance of the public in regard to many matters relating to the practice of medicine has often been deplored by members of the profession and sometimes by those outside of the profession. This little book treats in an interesting way many of these questions from the standpoint of the regular physician. If put into the hands of the laity it could not fail to secure greater appreciation of the physician, not only in his business relations but in the purpose and methods of his treatment as well. It is the evident hope of the writer that the book shall reach the laity through the practicing physician, but it will fail largely in its mission on account of a failure to reach those for whom it was intended. The young physician, however, could read it with profit and instruction, while his older confrere, if not instructed, would doubtless be interested in the discussions contained in it.

A Text-Book of Surgical Principles and Surgical Diseases of the Face, Mouth and Jaws, for Dental Students, by H. Horace Grant, A. M., M. D., Professor of Surgery and Clinical Surgery in Hospital College of Medicine; Professor of Oral Surgery in the Louisville College of Dentistry, etc. Illustrated. W. B. Sanders & Co., Philadelphia and London. 1902.

After a careful perusal of Grant's Treatise on surgical diseases of the face, mouth and jaws we must say that we find it a text-book of exceptional merit. As a help to the dental student it will be found invaluable, filling a long felt want for a text-book that covers these subjects in a clear concise manner and yet not incumber the student with unnecessary details.

The illustrations are of the finest and coupled with the text gives a clearer idea of the subject at hand than any other of the kind. This book will be found of great value to the student and to the busy practitioner as well. It is a work of art so far as the style of type, illustrations and binding are concerned, giving a pleasing and interesting appearance throughout.

Medical News

J. L. Carlton, of Big Plain, will locate in Columbus.

R. C. Longfellow, of Fostoria, has removed to Toledo.

Graily W. Henderson has located in Magnetic Springs.

Dr Smith has been retained as Health Officer of Columbus.

Z. R. Chamberlin, of Cincinnati, has located in Green Spring.

James G. Shirer, formerly of Otsego, has located in Newark.

E. L. Morse, of Ashtabua, has left for his future home in Chardon.

Dr Montgomery, of Lacarne, will locate in Rock Ridge, shortly.

W. M. Smalley, of Ohio City, will probably locate in Upper Sandusky.

W. O. Bonner has been reappointed on the Delaware Board of Health.

C. P. Wolf, of Massillon, was fined \$10 for not reporting a case of smallpox.

O. L. Huffman has been appointed on the Board of Public Safety at Galion.

Byron H. Caples, of Fostoria, graduated from Bellevue Medical College June 1.

R. W. DeCrow, of Newark, has given up his practice on account of ill health.

Cincinnati physicians are contemplating the idea of establishing a medical library.

Selden I. Rainforth, of Cincinnati, led the graduating class at Johns Hopkins University.

The surgeons of the C. H. & D. R. R. held their second annual convention at Dayton.

Lima has two health officers, and it may be some time before the muddle is straightened out.

R. W. Mondbank, of Royalton, has entered upon a post-graduate course in New York.

L. B. Shumaker, of Galion, has been adjudged insane and is confined in a hospital at Toledo.

William T. Councilman, of Harvard, claims to have discovered the specific germ of smallpox.

Twenty-two graduates from the Cleveland College of Physicians and Surgeons were given diplomas.

E. M. Foster, of West Union, has returned from Europe where he has been doing post-graduate work.

Attorney-General Sheets declares that employees of the health department cannot be removed except for cause.

The merger of the Columbus Academy of Medicine and the Franklin County Medical Society is a certainty.

Cincinnati's branch Hospital for Consumptives is overcrowded, as it contains more than 100 patients.

The physicians of Cincinnati are discussing the location of a new City Hospital to be erected in the near future.

Cincinnati policemen will be instructed how to care for emergency cases before the ambulance arrives on the scene.

Galion now has a set of rules governing the city's sanitary condition which are sure to be productive of much good.

The Warren County Medical Society met at Lebanon. At this meeting they adopted the new Constitution and By-Laws.

A beautiful picture of the graduating class of Western Reserve University of 1903 appeared in the Cleveland *Leader* of June 7.

J. J. Hathaway, of Cleveland, will take charge of the practice of Harry McGarvey, of Carrollton, who will locate in Cleveland.

J. H. Dersch, of Springfield, has been appointed shop surgeon at the Champion Division of the International Harvester Company.

H. Negley Teeters, of Steubenville, has had his license revoked and is forever barred from practicing medicine in Ohio again.

J. H. Musser, of Philadelphia, was chosen President of the American Medical Association at the close of the meeting at New Orleans.

The Greene County Medical Society met at Springfield. D. E. Spahr, of Clifton, read a paper on "A Day With a Country Doctor."

Dr Mikulicz, of Breslau, on his way to Washington, stopped off in Cleveland long enough to hold a clinic at Lakeside Hospital recently.

The bids for district physicians at Toledo were all for \$300, except three, and these were each for \$240. None of the latter were accepted.

The Peter F. Fossett Memorial Hospital, for the colored of Cincinnati, is being kindly remembered by the citizens of that city in a financial way.

Ernest Scott, Professor of Physiology at the Ohio State University, has been elected to fill the chair of histology at the Ohio Medical University.

Columbus, its Mayor and the Columbus Academy of Medicine are having a warm time about the appointment of a new Health Officer.

Mrs R. S. Ambler, of Canton, presented 200 medical volumes to the Canton library association. The books were part of the library of her father.

The mosquito and his relation to disease was fully discussed at the Congress of American Physicians and Surgeons recently held in Washington.

The second regular meeting of the Crawford County Medical Society was held at Bucyrus. John W. Birk, of Bucyrus, read a paper on "Appendicitis."

Not more than two physicians on the new Board of Health, consisting in all of five members, will in all likelihood be appointed by Mayor Johnson in Cleveland.

Mayor Johnson says that Health Officer Friedrich has proved himself to be a most capable official and as such will get the Mayor's vote for reappointment.

The rules of the Board of Public Service, of Cincinnati, provide for the appointment of three physicians who will look after the more strictly medical affairs.

There is just a little too much newspaper notoriety given to several operations performed by several doctors in Cleveland lately, to be strictly within the Code.

The services of J. H. Moninger, one of the special physicians engaged to meet the smallpox situation at Columbus, have been dispensed with for the sake of economy.

There were no papers read at the meeting of the Clark County Medical Society which was held on June 1. The time was devoted to the discussion of matters of business.

Martin Friedrich, Health Officer of Cleveland, has had a buoy placed 10 miles out in the lake and in the future every scow dumping night soil into the lake will have to go beyond this buoy.

The Summit County Medical Society held a special meeting on June 3. N. Stone Scott, of Cleveland, delivered a highly interesting address on "Appendicitis" that was very much appreciated.

The report of the special committee of the Association of American Medical Colleges on requirements shows that the high standard of requirements for admission to colleges will be sustained.

A delegation of physicians, of whom George W. Crile was spokesman, waited upon the Mayor of this city to urge upon him the appointment of a majority of medical men upon the new health board.

Dr Bradfield read a very interesting paper on "Scarlet Fever" at a recent meeting of the Knox County Medical Society which was held at Mt. Vernon. The paper elicited a spirited discussion by those present.

C. O. Probst, Secretary of the State Board of Health, filed with Governor Nash the seventeenth annual report of that Board. As might be expected, the report is largely devoted to the prevailing smallpox epidemic.

T. G. Youmans, D. J. Snyder, and H. C. Fraker have severed their connection with the Ohio Medical University. E. Scott, Dr Fraker, and E. A. Hamilton, S. Fulton and H. H. Snively, have been added to the faculty.

Ohio has been the pioneer in many great philanthropic enterprises and the Legislature would show its wisdom if it follows the Commission's advice to appropriate \$200,000 for a fair trial of the experiment to establish tuberculosis sanatoria.

The Fayette County Medical Society has been formed with the following officers: President, G. W. Blake; Vicepresident, G. W. Ireland; Secretary and Treasurer, A. O. Irwin; Censors, S. M. McFadden, G. W. Holdren and J. E. Furry.

The Guernsey County Medical Society held a special meeting at which E. C. Brush, of Zanesville, delivered an address. After the meeting the Doctor was dined at Noel Hotel and the meeting was pronounced a decided success by everyone present.

The Union Medical Association of Northeastern Ohio met at Canton. T. C. Martin, of Cleveland, delivered a lecture on "Brief Suggestions on the Management of Rectal Diseases." G. M. Todd, of Akron, read an essay on "Extrauterine Pregnancy."

The Coshocton County Medical Society has been formed with the following officers: President, J. G. Carr; Vicepresident, Dr Lower; Secretary, Dr. Kitzmiller; Treasurer, F. M. Marshall, Coshocton; Board of Censors, W. C. Frew, Jesse McClain and Dr Dillon.

C. R. Holmes, one of the Cincinnati Hospital Trustees, received \$500 as salary for his year's work. The Doctor did not know that there was to be any remuneration connected with his work so he promptly divided the sum among the various charities of the city.

In Ohio after January 1, 1904, the shipment of corpses will be allowed, no matter of which infectious diseases the person died, providing a certificate of preparation by a licensed embalmer accompanies the corpse. Some States have no embalmer's law and they will be discriminated against.

Henry H. Seys and Isaac Kay, of Springfield, who have passed the 50-year mark of their professions and in their active membership of the Clark County Medical Society, were given a dinner recently. Many of the out-of-town physicians were present and a most enjoyable evening was spent.

J. W. Collins, of Toronto, on behalf of the local Board of Health, makes a statement to the effect that the Board of Education, in the recent smallpox epidemic, failed to carry out the recom-

mendations of the health authorities, and that, therefore, complaints must be met by the Board of Education.

The Ashtabula County Medical Society held a meeting on June 4 at which 20 doctors were present. The program was as follows: "Sepsis," by W. H. Leet, of Conneaut; "Kidney Diseases," by W. E. Lower, of Cleveland; "The Pioneer Doctors of Ashtabula County," by W. H. King, of Conneaut.

A meeting of the Wood County Medical Society was held at Bowling Green. Mary A. Wilson, of Bowling Green, read a paper on "Diseases of the Pericardium." G. B. Spencer, of Weston, gave an interesting talk on "Hygiene." Dr Steinfield, of Toledo, read a paper on "Microscopical Work."

C. F. Hoover, of Cleveland, spoke before a recent meeting of the Toledo Academy of Medicine. His topic was "The Interpretation of the Pulse in Certain Pathologic Conditions." After the lecture the Doctor was dined at the Tavern. On the morning following, he conducted a clinic at the Toledo Medical College.

The physicians of Allen County met at Lima recently and reorganized the Allen County Medical Society with T. R. Terwilliger, of Lima, as President; W. B. VanNote, of Lima, Vice-president; G. A. Bachmayer, Lima, Secretary; E. G. Burton, Lima, Treasurer. A. S. Rudy, of Lima, was elected delegate to the Ohio State Medical Association.

The Medical College of Ohio, of Cincinnati, held its commencement exercises in May. Cincinnati graduates 155 students from her medical schools this year. It has been proposed to have graduation time four months earlier to offset the four year course and to offer inducements because of the stringent State examinations. We hope that the latter project will fall through.

The Hardin County Medical Society elected the following officers for the ensuing year: President, C. C. McLaughlin, of Dunkirk; Vicepresidents, E. B. Heistand and Jesse Snodgrass; H. D. Belt, Secretary and Treasurer; Board of Censors, W. A. Belt, of Kenton; Frank Humphress and L. W. Campbell, of Ada. The meetings of this Society occur the second Friday of each month.

The daily newspapers have been indulging freely about the criticism that American physicians were going to offer against Dr Lorenz's methods. Anything for the sake of a sensation. Dr Lorenz will receive all the credit due him at the hands of the physicians of the United States. His reception in the different cities he has visited does not look much as though he was being severely criticised by the medical profession.

The physicians of Columbiana County met and organized the Columbiana County Medical Society with the following officers: President, W. N. Bailey, East Liverpool; Vice-president, A. B. Holland, Wellsville; Secretary and Treasurer, W. E. Morris, Lisbon; Delegates to the State meetings for two years,

W. A. Hobbs and J. T. Elliott, both of East Liverpool. Wm. S. McFarland, of Wellsville; A. C. Yengling, of Salem, and W. M. Calhoun, of East Liverpool, were elected members of the Board of Censors.

The Ohio State Medical Association which met on June 3, 4, and 5 at Dayton, elected the following officers for the ensuing year: President, Charles S. Hamilton, Columbus; first vice-president, W. W. Pennell, Fredericktown; second vice-president, J. Wright, Troy; third vice-president, B. McClellan, Xenia; Delegates to the American Medical Association, J. S. Beck, Dayton; C. A. L. Reed, Cincinnati; P. M. Foshay, Cleveland. The Secretary, P. Maxwell Foshay, of Cleveland, and James A. Duncan, of Toledo, were reelected.

The physicians of Crawford County met at Bucyrus and formed the Crawford County Medical Society. The officers of the Society are as follows: President, B. R. Miller, of New Washington; Vicepresident, T. L. Brown, of Galion; Secretary, R. S. Reid, of Bucyrus; Treasurer, C. E. Trimble, of Crestline; Board of Censors, H. N. Bowen, of Wharton; J. F. Fitzsimmons, of Bucyrus, and E. D. Helfrich. A. M. Duncan, of Bucyrus, was elected delegate to the State Association. J. W. Birk was elected the alternate.

The physicians of Knox County held a meeting at Mt. Vernon for the purpose of organizing the Knox County Medical Society. The officers are as follows: President, R. W. Colville, of Mt. Vernon; Vicepresident, D. G. Arndt, of Mt. Vernon; Secretary, H. W. Blair, of Mt. Vernon; Treasurer, W. L. Ely, of Fredericktown. F. C. Larimore, of Mt. Vernon, was elected delegate to the Ohio State Association meeting at Dayton. W. W. Pennell, of Fredericktown; W. J. Hyatt, and J. H. Norrick, of Fredericktown, were elected members of the Board of Censors.

Deaths

R. P. Evans, of Franklin, aged 74 years, died June 3.

Albert Wilson, of Sidney, aged 77 years, died on June 2.

Isaac W. Lanning, of Gilmore, aged 70 years, died recently.

G. W. Noble, the oldest physician in Edon, died recently. He was in his eightieth year.

R. Kinsell, of Columbus, 75 years of age, and one of the best known citizens, died recently.

H. T. Breckbill, for a quarter of a century a practicing physician at Columbus Grove, died recently. He was sixty years of age.

E. J. Cutler, of Cleveland, one of the State's most prominent Masons, died recently. At the time of his death he was lecturer on surgical pathology and minor surgery at Western Reserve University.

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Hydrotherapy in Pediatrics

BY M. BORTS, M. D., CLEVELAND

In presenting this subject for your consideration, it is not my purpose to attempt a complete discussion of the multitudinous uses of water or of all the various ways in which it may be used as a therapeutic agent with more or less benefit to the patient, but rather to point out the practical benefits within easy reach of the general practitioner in his treatment of febrile disorders peculiar to childhood.

It has been a growing conviction with me for some years that the benefit to be derived from the intelligent use of water in medical practice is not adequately appreciated by the rank and file of the medical profession; therefore, it is hoped that this brief paper will stimulate investigations that will lead to a larger use of water in our pediatric practice.

The profession has come to recognize pretty generally the benefits derivable from the use of the tub-bath in the treatment of typhoid fever, but it is rather slow, so far as my observation goes, to adopt it as a means in combatting other febrile conditions. Certainly there is no good reason for believing the bath of value in typhoid fever, and then refusing to use it in such febrile conditions as scarlet fever or cholera infantum. I was for years a believer in the use of the tub-baths in typhoid fever before it occurred to me that it might reasonably be expected to be equally beneficial in other febrile conditions. It was the facts in a paper read by our worthy president before the Cleveland Medical Society some five years ago on the treatment of scarlet fever by the use of the tub-bath that broke the ice for me and led me to a larger use of the tub in treating febrile diseases in children,

Read at the Annual Meeting of the Ohio State Pediatric Society, held at Dayton, June 1 and 2, 1903

and I want now to confess that I never derived so much satisfaction in treating such diseases, notably scarlet fever and cholera infantum, as I have since adopting the use of the tub-bath in all severe cases.

I have also been surprised to find how easily, as well as successfully, such measures can be carried out in family practice. When I first began to use the tub in treating typhoid, I was afraid to use it unless I had a trained nurse in charge, but I have long since learned, and no doubt you all have, that the tub can be successfully used in all families possessed of ordinary intelligence if they are willing to cooperate with the physician and follow his instructions. The same is equally true in the use of the tub in other febrile diseases of childhood.

There are two conditions to be especially taken into account in the use of the tub in children's diseases; the one is the temperature of the water and the other is the duration of the immersion.

When the tub is used to reduce temperature in pediatric practice, it is not necessary to have the temperature of the bath as low as is necessary in bathing the adult. The same results can be attained with a bath at 90° for a child, that would require a bath at 70° for an adult.

The same proportions prevail as regards the duration of the bath. In all ordinary cases 10 to 12 minutes is long enough for a child, in many cases 6 or 8 minutes is sufficient, while in adults 15 to 20 minutes is required. The explanation of this difference is easily understood. As all physicians are aware, a much less constitutional disturbance will cause a rise of temperature in young children. The nervous mechanism in the child which regulates the body temperature is more sensitive and consequently more easily disturbed. This same condition makes it more susceptible to the cooling and soothing effects of the bath. No doubt the weight and conditions of nutrition must also be considered. An infant weighing 10 pounds with a sparsity of fatty tissue is more susceptible than a larger or better-conditioned child would be.

The *soothing* effect of the cool bath on a child suffering with fever is one of the strong arguments in its favor. More than once I have seen the cross fretful child, that had been crying perhaps for hours, fall into a peaceful and quiet sleep in the bath-tub and continue to sleep for hours afterward. When they awake from such a sleep, the fever, as well as the irritability, is well-nigh gone. One such demonstration is all that is needed to convert the mother into a firm believer in the benefits to be derived from the

tub-bath. The benefits of the bath are greatly increased by the free application of *cold* water to the head while in the bath.

Thus far I have spoken only of the use of the cool or cold bath, but there are conditions when better results can be obtained by using the hot bath. The hot bath, as a rule, is not indicated in acute febrile conditions, but rather in the chronic stage characterized by exhaustion. I have been particularly impressed with the benefit of the hot bath in the later stage of long-drawn-out cases of typhoid fever. In this discussion I have frequently mentioned the tub-bath, but I want to say by way of explanation that it is not always necessary to use the tub in giving either the cold or the hot bath. The tub is the simplest way, but there are many conditions when equally satisfactory results may be obtained by a thorough sponging or a wet pack given either cold or hot.

The value of water as a therapeutic agent is not exhausted when we have used it in external application. It is equally beneficial when used internally. Prof. Holt recommends in his book on the treatment of cholera infantum and other gastrointestinal disorders that the milk diet be stopped, and then cleanse the gastrointestinal tract by irrigating the stomach and washing out the large intestine. The washing out of the stomach need not be repeated, at least not often, but the irrigation of the bowels should be continued two or three times daily in all severe cases of enterocolitis. I think there is an advantage in all such irrigations in using normal salt solutions instead of plain water.

There is no question in my mind that the faithful carrying out of the simple procedures thus far outlined will greatly reduce the mortality in that large class of gastrointestinal disorders of childhood as well as in scarlet fever, a disease usually dreaded, when severe, by all physicians. In order to emphasize the argument I have tried to bring out, I will append a short history of two illustrative cases:

Case I: On April 17, 1899, I was called at 2 p. m. to see Margery S., aged six years, who had been taken sick quite suddenly. She appeared in her normal health that morning. Her temperature was 104°. She was very restless and tossing over the bed. She had vomited several times. She was in a marked condition of stupor and it was quite difficult to get her to answer my questions. Scarlet fever was suspected although there were no throat symptoms, neither was any rash to be seen. Vigorous treatment by drugs was instituted and an early call was promised the next morning. Her condition next morning was much worse in every way. The temperature was 106°; the stupor was so profound that she could not be aroused in the least; water put into her

mouth with a spoon was not swallowed but ran out as in a cadaver. It was impossible to give medicine by the mouth. The throat was beginning to look red but there was no sign of a rash. An unfavorable prognosis was given to the parents, and the tub-bath was recommended as the only treatment. The recommendation of this treatment was accepted and was immediately begun. A bath at a temperature of 90° was used, with plenty of cold water poured on the head while in the bath. The duration of the bath was 15 minutes and was repeated every two hours, day and night. There was no change the first day except that the temperature was reduced to and held at about 103°. After 24 hours bathing, the condition of stupor was much improved. She was now conscious of her surroundings and resisted when put into the bath. She also drank water and a little milk. A little medicine was given from now on, but the baths were continued the same, day and night. By the fourth day the rash began to appear and was very profuse two or three days later. The throat symptoms were also very severe.

The stupor and restlessness soon disappeared, and the progress of the case in every way was very satisfactory. There were no sequels of any kind except five or six abscesses that developed during the period of her convalescence. She was not damaged a particle by her severe attack of scarlet fever. The baths were continued until she was practically well, but, of course, at longer intervals. I know of no other treatment that would have secured such a result in such a desperate case.

Case II: Mrs W. was greatly pleased with a nursing-bottle having a long rubber tube that she saw in a drug-store. She thought how nice that would be for feeding her nine-months'-old bottle-fed baby. Being a young mother and inexperienced, she had no thought of the danger in using such a device. It took just four weeks' use of the bottle to develop as bad a case of enterocolitis as is usually seen. Her temperature when first seen was 104°. She had frequent attacks of vomiting. She had a profuse diarrhea of watery, green and very offensive passages. The bowels were severely distended with gas. She had had several convulsions and, in fact, it looked as if the end was not far off. We stopped the milk diet, washed out the gastrointestinal canal, taking care to have the irrigation of the bowels thoroughly done by passing a flexible tube far up into the descending colon and with the hips well elevated. As soon as this was accomplished, she was put into the tub at a temperature of 90° with plenty of hydrant water poured on the head. This was in April when the temperature of the hydrant water is about 50° or 55°. She was left in the bath for 12 minutes. She was then given small doses of calomel with plenty of boiled water with a little brandy added. After the second day albumen water was also given and later beef-juice. The tub-bath as described above was repeated by the family every three hours. The irrigation of the bowels I did myself, repeating it three times a day as long as the condition of the

patient seemed to require it, which was three or four days. Her improvement began with the treatment just outlined. There were no convulsions after the second bath. Her temperature speedily subsided. She slept from one bath to another, and her condition improved from one day to another, making a perfect recovery.

I consider the results attained in these two cases as rather exceptional. I certainly thought that both cases would die when I first saw them, and I firmly believe that without the use of water they both would have died.

Sarcoma of the Choroid in a Child

BY WILLIAM EVANS BRUNER, A. M., M. D., CLEVELAND

H. B., aged 5 years and 11 months, was brought to see me on April 3, 1901, with the following history: The paternal grandmother is said to have died from cancer of the uterus. The father's health has always been good except for chronic rheumatism. The mother has always been well until two years ago when she had some gastric disturbance from which she has fully recovered. They have had 13 children all of whom are living except two. One was killed in the Spanish-American war; the cause of death of the other child is not known. The oldest is 28 years of age and the youngest is two years. There has been no eye trouble in the family.

This little girl, though never very strong, had usually enjoyed good health. In December, 1898, she had a mild attack of scarlet fever, and associated with it, had a suppurating adenitis on the right side of the neck. The abscess was opened and healing was prompt. Nothing wrong was noticed with the eye until three or four months after the scarlet fever, or about two years before I first saw her, and there is no history of any injury to the eye at any time. About two years ago the mother first noticed a small spot in the right eye—a small yellowish reflex in the pupil. This slowly grew larger and about six months later the sight began to fail. About December, 1899, or January, 1900, she began rather suddenly to have pain in the eye. The mother then took her to a physician in Akron who pronounced it a glioma, and advised enucleation. She declined to have anything done. At times there would be no redness whatever of the eye and no pain, then again it would become red and painful and the lids would be slightly swollen. When she "took cold" as the mother expressed it, the "cold" would always settle in the eye. These

attacks would recur every two or three months and last several days. Her general health was rather poor when she began having these attacks of pain in the eye, but this improved with tonics. The mother later took the little girl to another physician in Akron who prescribed internal and local treatment and told her that the eye would get well in six months. About November, 1900, she first noticed that the pupil was becoming larger. In January, 1901, the eye became worse. The lids were swollen, the eye-ball was red and very painful. About two months before I saw her, the mother brought the little patient to Cleveland to see an oculist. He advised against enucleation, gave her a lotion and told her



that the eye would shrink, but it was not likely to give any further trouble. In conversation with me afterward he said the eye was blind and presented all the appearances of a subsiding panophthalmitis with tension —3. There was no improvement. About a month later the eye began to protrude and shortly afterward the lids became red and swollen. Recently she has had a great deal of pain, no appetite and has not slept well.

Her present condition is well shown in the accompanying photographs. Proptosis is marked. The eye-ball is pushed almost directly forward and is immobile. The upper lid is much swollen and dusky red in color. Considerable effort is required to separate the lids. There is slight bulbar edema in the palpebral

fissure. The cornea is only very faintly hazy. The anterior chamber is very shallow or almost obliterated and the pupil is filled with lymph. The tension is $+1$. The child is apathetic and evidently in pain. The temperature is slightly above normal. Enucleation, or more probably exenteration was advised, though the mother was told that the growth would almost certainly recur locally or elsewhere. The operation would relieve the child of pain and would probably somewhat prolong life.

On April 5, under ether anesthesia, the eye-ball was enucleated. All the surrounding tissues were found adherent to the ball and the sclera was involved. A large mass could be felt filling up



the posterior portion of the orbit. Complete exenteration of all the contents of the orbit was then performed. The periosteum was removed and trimmed off as closely as possible to the apex of the orbit. The bone appeared healthy. The cavity was then packed with iodoform gauze. She slept much better that night than for a long time and the following morning was feeling very comfortable. After several days we began removing a little of the packing each day until the sixth day when all of it was removed, and the cavity was freely syringed with boric acid solution.

On April 23, the bandage and all packing were discontinued and a small patch was substituted. The socket was perfectly clean, and the bone was covered with normal looking tissue. The

following day, April 24, the mother drew our attention to a swelling on the head which she had noticed the preceding day. A well-defined small hard elevation was found, evidently in the bone itself, situated to the left of the median line just in front of the coronal suture. There was no pain nor tenderness about it. The temperature was normal in the morning and 99° in the evening. Evidently this was the beginning of a metastatic growth in the left frontal bone. April 26, three weeks after the operation, the little patient left for home. The orbit was perfectly clean and gave no indication as yet of any recurrence. She was looking much better and brighter and had a good appetite. The mother was told of the probable nature of the swelling on the head and was asked to report soon in regard to the child's condition and if possible to bring her to Cleveland again if this growth should become larger or there should be recurrence locally or metastasis anywhere. A letter was also sent to the family physician. As I heard nothing from him I wrote him several more letters without getting any response and finally I wrote the mother. She informed me that the tumor on the child's head grew to the size of a large coffee-cup, and another developed on her jaw. She could not close her mouth and for a time before her death she could not talk so as to be understood. She became unable to chew any solid food and could take only liquid nourishment. She suffered much pain and died August 5 just four months after the operation. The eye-ball and contents of the orbit were given to Dr W. T. Howard, Jr., who examined them and pronounced the growth a sarcoma.

There was of course nothing unusual in the operation for this case, and the final result was merely what was expected. The point of interest pertains to the diagnosis as based upon the clinical course and as determined by examination of the specimen.

Würdeman, writing in Posey's text-book on Diseases of the Eye, one of the latest books published, states that "Sarcoma is extremely rare in children, so that a malignant growth developing in an eye-ball would in all probability be regarded as a glioma in a child and a sarcoma in an adult." Fuchs says sarcoma is extremely rare in childhood. "This gives a means of distinguishing it from gliomata which spring from the retina and which in part present symptoms like those of sarcomata but which occur in children exclusively. A malignant neoplasm developing in the eye-ball will therefore have to be regarded, in all probability, as a glioma in a child and as a sarcoma in an adult." Only 11 out of 259 cases of sarcoma collected by Fuchs occurred before the age of 10 (Berry). Marshall, in the Royal London Ophthalmic

Hospital Reports (Vol. 15, Part 1, 1899), reports 58 cases of sarcoma of the choroid seen between December 1891 and the date of his report. The youngest patient was 28 years old. Griffith, in Norris and Oliver's System of Diseases of the Eye, gives the age of sarcoma from 20 or even less to old age. De Schweinitz in his text-book says that "Sarcoma of the choroid is differentiated from glioma by the fact that the former usually occurs at a later period of life." Glioma, on the other hand, is sometimes congenital, and it usually occurs before the third year, but rarely as late as the eleventh or twelfth year. Marshall, in the Royal London Ophthalmic Hospital Reports (Vol. XIV), reports 43 undoubted cases of glioma of the retina which had been examined in the laboratory. Of these 15 were detected before the first year, 12 between the first and second, 8 between the second and third, 4 between the third and fourth, 2 between the fourth and fifth, and 1 between the sixth and seventh. Schöble, in Norris and Oliver's System, says that most of the cases occur between the first and third years, and most or all of the authorities agree with him. In our little patient the grayish reflex from the fundus was first noticed when she was about four years old, and she was about six years old when we first saw her. The age in our patient would therefore correspond to that of a glioma. Several years previously however, in 1898, I saw a little girl two years of age at a dispensary in whose eye something abnormal had been noticed a year previously, or when she was only one year old. The appearance at the time of her visit was typical of the so-called "amaurotic cat's eye," and glioma of the retina was diagnosed. The eye was enucleated and examination in the laboratory showed it to be an angiosarcoma of the choroid originating from the central artery of the retina. Age therefore is an uncertain element in making a diagnosis.

The glioma "resembles closely in its structure a round-cell sarcoma, so much so," says Berry, "that they are by some considered to be identical." Most text-books speak of them as distinct diseases. Since Virchow almost all modern investigators except Klebs have accepted the fact that gliomata start from the supporting fibers of the retina, and they may therefore start from any of the layers except the rods and cones. Some workers have doubted whether glioma is independent of and different from sarcoma. Schöble thinks they are distinct. "Not a single observer has found a glioma starting from a retinal blood-vessel. With sarcoma this is not rare." This was true in the one case mentioned above. In my own patient it was impossible to tell at the stage

when the eye was examined where the tumor had originated. The glioma may become mixed in type, or as Schöble says, "It seems evident that as the tumor comes in contact with different tissues, it may induce in them severally a hyperplasia characteristic of their own structure. As glioma spreads into the choroid and sclera the cells assume the character of a small round-celled sarcoma. True sarcomata of the retina are of a secondary nature coming from the choroid and propogated into the retina." It would seem therefore either that the two are in reality identical as some authorities have asserted or else there is a great deal of confusion in distinguishing between them, and many are being wrongly diagnosed. Clinically there are supposed to be other points of difference between them; but, if there is a difference, it evidently cannot be positively determined clinically and can be determined only by microscopic examination of the specimen.

In our patient the eye was interesting because of the stage it passed through in which it resembled an old case of panophthalmitis, and was so diagnosed, while previously it had evidently presented the clinical symptoms of the first stage of glioma. Virchow believed that the shrinking of the eye in these rare cases of glioma is due to a high grade regressive metamorphosis and absorption of fluid contents, while Von Graefe considered them due to inflammatory processes in the uveal tract, as an iridocyclitis or subacute or chronic panophthalmitis. Schöble inclines to the opinion that both factors are active. He calls such a growth a cryptoglioma and believes it is impossible in some of these cases to make a correct diagnosis. Von Graefe mentioned some points to aid in the recognition of glioma in a shrunken eye-ball—the shape and painfulness of the stump. These are mentioned in many text-books, but they seem very uncertain and unreliable. Sarcoma also may occur in shrunken or phthisical eye-balls, or rather may at times cause *phthisis bulbi*, and at times simulates chronic iritis, as in the case reported by Griffith in the *Ophthalmic Review*, December 1891. The process by which this is brought about is the same as in glioma and there is also the same impossibility of positive diagnosis. I recall such a case reported a few years ago at the Cleveland Medical Society by Dr C. J. Aldrich, I think. The patient died of sarcoma of the liver metastatic from an old shrunken eye which had been entirely unsuspected of containing such a growth.

Sporadic Cretinism—With Report of Cases

BY J. P. DEWITT, M. D., CANTON

I wish to give a brief report of three cases of sporadic cretinism, or infantile myxedema occurring in my practice.

Dr Osler reports in the Transactions of the Congress of American Physicians and Surgeons, (Vol. IV.), that he was able to collect 60 cases in this country to May 1, 1897.

Many theories were formerly given as to the pathology and etiology of cretinism, but it is a proven fact that the degree of severity is due to the absence or disturbance of the function of the thyroid gland.

Osler says: "The diagnosis is easy after you have once seen a case or a good photograph of one."

Case I: Casper E., a male, white, American, aged 2 years and 4 months, measures $29\frac{1}{2}$ inches in height, weighs $22\frac{1}{2}$ pounds, and the abdomen measures $19\frac{1}{2}$ inches.

The mother was 38 years old and has always been healthy; the father was 40 years old and has never been sick; the grandparents are living and well, and there is no hereditary disease on either side of the family.

This is the eighth child; the other children are living and well. The labor was normal. The mother has a small goiter which she says appeared after the birth of this child.

The mother noticed that this child from birth was not like the other children, but the attending physician informed her that "it would outgrow it."

On further examination I found the skin all over the body to be thick, swollen, dry, cold, and scaly, and would not pit on pressure. Its color was a pale yellow. The hair was thin, coarse, straight, and brittle. The fontanelles were open. The abdomen was protuberant. The limbs were short and the skin laid in folds, and he made no effort at walking.

His hands and feet were pudgy and undeveloped. The nails were flat and brittle. There were pads of fat above his clavicles. I could not palpate the thyroid gland. The tongue was very large and swollen and protruded somewhat from the mouth (Macroglossia). The nose was depressed between the eyes, and the nostrils were open. The eyelids and ears were puffy and swollen. His face presented a look of old age with a toad-like appearance. He had a few teeth in front, but they were ragged and decayed to the gums. There was no perspiration and his mother could not keep him warm, but there was a constant drooling of saliva from his always-open mouth. His neck was short. His appetite was voracious, but all foods had to be put into his mouth, and he showed no desire for certain foods, but would not eat meats. He was usually constipated with occasional attacks of diarrhea.

His mental condition was undeveloped. He would not notice the other children at play, nor would he make any wants known. He has a peculiar sonorous voice and at night was restless and would creep over the bed, making monotonous noises.

Treatment with thyroid extract, one-half grain given three times a day, was commenced at the age of two years and four months, and the photograph shows him at the age of three years and ten months, or after one and a half year's treatment. Improvement was at once noticeable, the tongue becoming smaller and the skin moist and warm. He is now a fine healthy appearing boy, 36 inches high. His weight is about 40 pounds. His hair and



Cretinism Case I. Casper E., age 2 years, 4 months. Before treatment.



Cretinism Case I. Casper E., age 3 years, 10 months. After 1 year and 6 months treatment with thyroid extract.

teeth are fully developed, and his abdomen is natural. He can walk, play, talk, and seems as bright as the other children, and you could not tell from looking at him that he has been a cretin. He is taking about three grains of thyroid extract three times a day at present.

The mother has since given birth to a well-developed child weighing about 10 pounds. I arrived about one hour after it was born and found a dead baby; whether it died during labor or was stillborn, I cannot say. She took thyroid extract during her pregnancy.

Case II: Agnes H., white, American, aged 4 years, meas-

ured 26 inches in height, the abdomen $18\frac{1}{2}$ inches, and the weight was 19 pounds. The father was 29 years of age; the mother was 28 years of age; both are living and well. There is one sister seven years old who is bright and healthy. The mother's father died of cancer of the stomach. The other grandparents are living and well. This child did not seem to be normal shortly after birth, and several physicians were consulted prior to the time I saw her.

Her mental condition was undeveloped and similar to Case I, although she made some effort at talking and expressed some meager desire for certain foods. Her physical condition in regard to skin, hair, teeth, tongue, nose, mouth and limbs was



Case II. Agnes H., age 4 years.
After 10 days treatment.



Case II. Agnes H. After 8
months treatment with thy-
roid extract.

about the same as the preceding case, and in addition she had a large umbilical hernia and general anasarca. I could not feel the thyroid gland. The mother has had a slight enlargement of her thyroid gland for several years.

The photographs before the treatment do not show her real condition, as she had been given thyroid extract for about ten days before these were taken, and a great deal of the anasarca had disappeared. She was given one-half grain of thyroid extract three times a day at the beginning and is now taking about two grains three times daily. Improvement was manifested almost immediately, and the photograph shows her at the age of four years and eight months, after eight months' treatment; after taking thyroid

extract she lost about eight pounds, but now weighs 22 pounds and is 31 inches high, and the abdomen is 17 inches in circumference.

Case III: It was impossible to obtain photographs of this case. The patient is Marion K., male, American, white, aged 7 years. The father is 31 years of age and the mother is 30 years of age, and both are living and healthy. There is one sister 5 years old, who is well developed and very bright. The grandparents are living and well. This is a very mild case, or rather a cretinoid state.

He is a cousin to Case II. The boy has never developed mentally as fully as he has physically. He is a large well-developed boy for his age. His skin was cold, and his tongue was large, which seemed to account for the deep guttural voice.

The anus was open, and there was a prolapse of the rectum. He had no control whatever of his bowels. His prepuce was long, and he urinated the same as when a child, and it was impossible for the mother to teach him these customs.

His height and weight were normal. He developed to a certain degree mentally, but his mother thought he had gone backward during the last year. The appetite was normal but he had to be fed most of the time. He would play with certain playthings; others he would not notice.

He knew some of his letters and could count some, but there was a wandering, undeveloped condition of his mind which could not be accounted for, only by the partial function of the thyroid gland.

On his first visit to my office he would not sit in a chair, but kept moving about continually, upsetting bottles, instruments and my inkstand.

He has been taking thyroid extract for four months, and now has full control of his kidneys and bowels; he is developing mentally, and has gone to school the last two months, and has learned his letters; he can draw and write, and seems to be improving.

The Dangers of Adenoids

BY S. H. LARGE, M. D., CLEVELAND

The time allotted is too short for us to go into the minute pathology, symptoms, etc., of adenoids, so I will just outline the same.

Adenoid vegetation in children is one of the most common affections with which we have to deal, and one that causes very serious results if not removed.

These growths are made up of lymphoid tissue and are sometimes given the name of the third tonsil. Some of the symptoms are

mouth-breathing, dull expression of the face, the open mouth, nasal twang, forgetfulness, dulness at studies, restlessness during sleep, snoring, and a mucous discharge sometimes tinged with blood. Examination of the post-nasal space either by the mirror or finger reveals the mass of lymphoid growth which may be situated either centrally or laterly around openings of the Eustachian tubes. The most serious and common complication is deafness. Children who suffer from adenoid growths, if they contract any of the exanthemata, seldom recover without some damage being done to the organs of hearing, because the lymphoid tissue acts as a fit nidus for infection, or it may swell up and block the Eustachian orifice, which eventually leads to an otitis media or a suppurative otitis media, which may result even in total deafness.

A child suffering with adenoids seems to take cold upon the least exposure, and although no name has been given to this cold in the head it certainly is an adenoiditis. The seriousness of adenoids has never been impressed strongly enough on the minds of the general practitioner as it is he who first sees these cases.

Adenoids to a child are as dangerous as is the catarrhal appendix to the individual, and the sooner they are removed the better. In schools the same pains should be taken for correcting this affection as is taken in correcting errors of refraction. Only in exceptional cases do I remove the turbinates for hypertrophy. I find, however, that if the lymphoid tissue in the post-nasal region is removed, and the turbinates are cauterized, in 99 cases out of 100 the cause of the trouble will be removed.

There are many other serious complications that I have only time to mention, *viz.*, indigestion, convulsions, stammering and stuttering, arching of the hard palate, irregularities of teeth, prominence of the upper jaw, stunted growth, large open nostrils, headaches, loss of memory, nocturnal eneürisis, loss of smell, cough and adenitis. The operation for the removal of adenoid growth is so simple and the results are so satisfactory that it should be done without delay. During the last year I have operated a hundred times in cases of this kind and in every case there was an improvement. I never perform the operation under a local anesthetic as I have been unable to make it painless. For young children under the age of four years I prefer chloroform, and for older children our latest anesthetic, the inhalation of ethyl chlorid, ether or nitrous oxid.

The operation can be undertaken at any age. Last month we operated upon a baby six months old whose post-nasal space was so blocked that it was unable to nurse, and was becoming very

emaciated. Two weeks after the operation the child had gained five pounds. If one could see the number of deaf people that are seen daily in the clinics and in private work, most of them dating the beginning of their deafness at childhood, more pains would be taken to correct this affection. I have noticed in my experience that the blind, as a rule, are of a jovial and cheerful disposition, but I have yet to see a happy deaf man or woman. They live in a world of their own.

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Department of Therapeutics

CONDUCTED BY J. B. MCGEE, M. D.

The Iodins: *American Medicine* for February 14 states that there are a number of remedies of such well-proven value that they are practically indispensable to the physician, which, nevertheless, exercise very undesirable secondary effects that interfere seriously with their use in many cases. Among these are potassium and sodium iodid, and the problem of finding some mode of exhibiting iodine in a therapeutically active form without the disturbance of digestion often caused by the alkaline iodids has engaged the attention of physician and chemist for a number of years. Of the various substitutes iodized starch is the best, employed in the form of a powder containing five parts of iodine to 95 parts of starch. It has much less tendency to disturb the stomach than the ordinary iodine preparations and is given in doses of from .2 to .6 grams (three to 10 grains) either in capsule or pill. Iodoform, while one of the earliest substitutes for the alkaline iodids, has not become popular, and its use today is almost limited to tuberculous conditions. It is given in doses of from two to five grams (30 to 80 grains) daily. The secret of its tolerance is to begin with small doses and increase gradually. Iodol is but a little more popular than iodoform, and has been recommended in tertiary syphilis of .4 to 2 grams (six to 30 grains) a day. Iodolene, a compound of iodol and albumen, is placed on the market in two strengths; that intended for internal use contains from 9% to 10% iodol. Jordan found that it possesses antisiphilitic properties like the iodids, and though they are generally well borne they occasionally cause gastric disturbances and iodism. As it is eliminated more slowly than the potassium salt, its action is more lasting, and it is for this reason recommended by Rievel in the treatment of actinomycosis. It must be given freely at least three drams (12 grains) in 24 hours in doses of about 2 grams (30 grains) each. Iodalbacid is made by the action of alkalies upon iodized albumen. It contains 10%

of iodin and is said to have an effect analogous to thyroïdin. Eigon preparations are combinations of iodin (or bromin) with albumen or peptone. They have been used externally as substitutes for iodoform and internally as substitutes for the iodids in syphilis and scrofula. Three grams (45 grains) are given daily, and the dose is gradually increased. Iodopin is by far the most important substitute for iodin and is said to be a chemical combination of iodin and oil of sesame containing 10% of iodin. As it is insoluble it has no effect upon the stomach, but is partially broken up in the intestinal juices and the iodin is liberated. Its action is more persistent and prolonged than that of the alkalin iodids, and it rarely causes gastric distress or iodism. Iodopin seems to be useful for every purpose for which potassium iodid has been employed, and it is claimed to be equal or even superior to it. It is best given in the form of an emulsion, and when the patient objects to the taste of the preparation it may be given hypodermically, about 10cc. being injected subcutaneously rather than intramuscularly into the gluteal region or back. The fluid should be warmed previously as when it is cold it is a little too dense for ready injection. The editor calls especial attention to the use of iodopin as a diagnostic agent in determining the motor power of the stomach. Its value here depends upon the fact that it is not absorbed in the stomach but is very readily broken up in the intestine. Ordinarily the iodin reaction with starch may be demonstrated in the saliva in 10 to 45 minutes after a dose of iodopin. If a longer time than this is required there is serious interference with the motor power of the stomach.

Erysipelas: Dr M. Schiller, in the *American Therapist* for June, believes that the first indication in a case of facial erysipelas is to thoroughly inspect the nose and mouth. For the treatment of the nose, a cotton swab is saturated with a 50% watery solution of ichthyol, and gently but thoroughly applied to each nostril from the alar to the nasopharynx. This enables the medicament to come in thorough contact with all parts, and at the same time relieves pain, acts as a cooling agent and opens up the nares by relieving congestion of the turbinated bones. The next step consists in an application to the diseased area and somewhat beyond it of a 10% solution of ichthyol in collodion. Ichthyol is at present conceded to be the remedy *par excellence* for erysipelas. At times it acts almost like a specific. The collodion by its contractile influence compresses the superficial lymphatics, thereby reducing the spread of infection and absorption into the general circulation. If, after these two steps have been followed the disease has spread beyond the border of application, or if, at the first visit the disease has reached the forehead, a compression

strap (Woelfler) or adhesive plaster is applied around the head. For this purpose a strip of ordinary adhesive or zinc oxid plaster corresponding to the circumference of the head is thus prepared. About two inches off of one end and that portion corresponding to the distance from one temporal region to the other is left free and uncovered while the balance of the strip is covered with gauze. The strip is then firmly applied to the forehead, encircling the head, and the free end is attached to the outside of the strip. In this way adhesion of the hair to the plaster is prevented and compression is firm and equable. This compression will frequently prevent the spread of the disease to the scalp.

Valerian: Dr Samuel E. Earp, in the *Medical and Surgical Monitor* for April, believes that it is an error to reject an old remedy simply because it is inferior in a certain class of cases, while in others its value has been proven. This is the case with valerian and although its action is most important in symptomatic conditions, it will under some circumstances effect a cure. Its safety is an important factor and it may overcome certain conditions just as well as some of the narcotics which threaten the formation of a habit. To overcome the disagreeable effects he prefers gaultheria, peppermint or the simple elixir. Its main value is of course as an antispasmodic, and he has found it serviceable in patients convalescing from grip, unable to sleep and showing nervous fatigue. In certain neuroses in which the heart action is accelerated, or respiration is quickened and labored almost to the point of dyspnea due to nervous tension or undue excitement, or in cases of melancholia, valerian will often give very good results. He especially advocates its use in the spasmodic diseases of children. Its safety renders it preferable to opium and its allies which are frequently used, and are fraught with danger not only in jeopardizing child life, but in aggravating the disease, and sometimes producing pathologic conditions which did not exist at the onset.

Colchicum: Colchicum is another of the older drugs to the value of which in the treatment of gout Dr C. C. Ransom calls attention in the *Medical News* for June 13. His results were favorable and he concludes as to its method of action that its effect upon the urinary secretion is at least not to augment it and if anything is rather to diminish it while the excretion of urea and uric acid under its influence remains practically the same. He asserts that the favorite preparation today is the wine, but he invariably uses the alkaloid colchicin getting better results with less danger of its disagreeing. It is, too, much more reliable and pleasanter to take. He believes that it is not necessary to push it to the point of purgation and agrees with Dr Gardiner that it never more effectually relieves the patient than when it acts

silently and peacefully without producing any evacuation whatever or in any way disturbing the patient's comfort and ease. He is convinced that the use of alternative doses will not only do much toward relieving the discomfort of chronically affected joints but will also act decidedly in preventing acute exacerbations.

Thyroid Extract: The *Philadelphia Medical Journal* refers to the discovery of Jouin some years ago that the administration of thyroid extract resulted in a rapid fatty metamorphosis of tissue. In those early cases of subinvolution that occur during lactation it was observed that the mammary secretion increased during the course of the treatment. It would seem therefore that thyroid extract with general tonics and local antiphlogistic measures promises in the early stage of subinvolution most beneficial and rapid results. Dr Eugene Fuller, in the *Medical News* for February 28 reports complete control of hemophilia through the use of the thyroid extract. The case was that of a typical "bleeder" and the result was remarkable. Five grains of thyroid extract were given three times a day to the patient, a boy 15 years of age. They also used the same drug in the same dose in severe hemorrhage following a perineal section in a nephritic patient. A severe secondary hemorrhage which persisted for several days and which surgical measures failed to control was promptly and permanently stopped by five-grain doses of the thyroid extract, given three times a day. The hematuria for which the operation was performed did not return. Regarding the first case, he states that the result shows the close relationship that exists between hemophilia, and the other defective conditions over which this gland has control.

Typhoid Fever: Dr H. A. Hare, in the *Therapeutic Gazette*, states that one of the most important functions is undoubtedly that of the kidneys upon which falls the duty of eliminating the toxins of the disease itself, the toxins of other infecting organisms, and the waste products of the fever. It may be truthfully stated that even the quantity of urine excreted is often not noted, it is rarely tested for evidences of nephritis, and it is still more rarely examined to determine the excreting power of the kidneys by estimating the amount of urea, which is as important a function in typhoid as in pregnancy. For the maintenance of this function, pure water is to be insisted upon being given and should be given very freely in small quantities, and if need be aided by mild refrigerant diuretics. As regards the cold bath, he believes that as long as we produce reaction, oxidation, elimination and finally equalization of the circulation by the use of cold, it matters little how that cold is used. Concerning strychnin, it is said to be essentially an irritant stimulant which should be applied in a crisis, only a few doses at the most being given, its con-

tinued employment being like applying a whip constantly to a tired horse. He is convinced that the physician who relies entirely upon strychnin as a circulatory stimulant in the course of fevers is making a therapeutic mistake. The remedies recommended in intestinal hemorrhage are very numerous, but he has yet to hear of or try one which really appeals to him as part of rational therapy unless it be calcium chlorid or gelatin, either of which has given him results in the relation of cause and effect. He has little faith in the ice-bag to the belly-wall, and when the hemorrhage is really active no styptic can get to the bleeding spot soon enough to effect a good result, and when the hemorrhage ceases after a remedy is used it does so more by the efforts of nature than by any effort of the physician.

Strychnin: Dr R. G. Curtin, in the *Therapeutic Gazette* for November, asserts that he does not deny the usefulness of rational doses of strychnin in certain conditions of cardiac weakness, but more particularly to call attention to the abuse of the remedy. It would be folly to condemn its use in toxic doses in selected cases, or in full doses in emergencies such as occur in the acute infectious diseases unaccompanied by macroscopic changes in the myocardium or endocardium, or to help tide over such crises as occur in primary shock or operative shock. He, however, takes issue with those especially of the younger school who indiscriminately give doses of one-fifth of a grain or more in the 24 hours, and feels convinced that under such treatment he has failed to see cases recover which formerly under more rational treatment were restored to greater or lesser degree of usefulness. In a heart crippled by disease, the dominant action of the drug—vasomotor stimulation—cannot be made use of. Its direct effect upon the heart is so slight that it seems irrational to employ it in place of such remedies as are known to act more beneficially upon the myocardium and its controlling nerves. As regards the drugs to be used in its stead, he places most dependence upon digitalis and alcohol; digitalis because of its remote as well as of its immediate effects; alcohol because, in addition to being a diffusible stimulant, he believes it to be a valuable tissue food. Strychnin, he states, fulfills neither of these important offices. Besides these drugs, nitroglycerin, citrate of caffein, cactus, strophanthus, ammonia and atropin are of value, and these remedies, selected to meet individual cases when combined in proper proportions, will, he asserts, yield more favorable results than can be obtained by giving large doses of strychnin.

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EDITORIAL

The Popular Dread of Rabies

The occurrence in our city of an isolated case of rabies in a pet dog, which, unfortunately, bit a number of individuals before it could be captured, not unnaturally stirred up a popular outcry against the presence of dogs at large and unmuzzled upon the streets during the summer months.

It is interesting in this connection to note the popular belief that dogs are particularly apt to go mad during the so-called "dog-days" which are ordinarily reckoned from July 3 to August 11, and also the fallacy of the argument that muzzled dogs protect against rabies in man.

As a matter of fact, dogs are not more liable to go mad during the period from July to August than at other times, though it must be admitted that the danger of infection from animals at large, and suffering from rabies, is greater at this period than during the cooler months when the number of dogs at large is probably much smaller.

In a very valuable monograph upon the subject of rabies by Ravenel (U. S. Department of Agriculture, Bulletin 79), the

distribution of 14,066 cases is given by the months of the years as follows: January, 943; February, 1,045; March, 960; April, 1,323; May, 1,419; June, 1,467; July, 1,435; August, 1,294; September, 1,145; October, 965; November, 933; December, 1,137. From these figures it will be seen that the largest number of cases occurred in June, the smallest number in November, that more cases of rabies occur from April to September inclusive than during the rest of the year, but that the great epidemic prevalence of rabies is not necessarily limited to the so-called "dog-days." In the face of these figures one would naturally expect that the greatest number of individuals bitten by mad dogs would be recorded during the hot months, and yet we find that this supposition is not borne out by actual statistics. According to the figures of the Pasteur Institute at Paris, the maximum number of bitten persons applying for treatment there during the years from 1886 to 1893 occurred during the months of March, April and May, while the minimum number applied in September, October and November.

That the real danger from rabies cannot be averted by a simple muzzling ordinance has been demonstrated only recently by the tragic instance which occurred in the family of a well-known physician of greater New York. If we are correctly informed, the child was bitten by a pet dog while at play in the house, a place and time where even a muzzling ordinance would have been of no avail. Three such similar accidents are known to the writer.

It is probable that, if the number of cases that have occurred through the agency of pet animals were known, they would surprise and alarm the most sanguine. It is indeed well to bear in mind that the danger from rabies may at any time become a real one, and to warn the owners of pet animals to be on their guard against any apparently trifling indisposition on the part of their favorite dog during the summer months. It should not be forgotten that the average period of inoculation of rabies is 40 days in man and from 21 to 40 days in dogs.

X-Rays and Living Tissue

The very general use which has been accorded the Roentgen rays as a therapeutic measure has led to many attempts to reach some accurate conclusion as to the ultimate cause and effect upon living tissue of this mysterious agent.

That their specific action depends, in some measure, upon their inherent actinic properties is generally conceded. That, how-

ever, the actinic properties of the X-rays and of light are not necessarily identical has been logically demonstrated by Pusey in his recent work upon this subject (*The Roentgen Rays in Therapeutics and Diagnosis*, Pusey and Caldwell, 1903). This writer even goes further and says that the question as to what processes are set in motion in the living cells when they are changed by X-rays or by light is one that no man can answer until we know what the changes are in the cells that constitute life.

In the face of this truth, it is not strange that we meet with many conflicting statements as to the action of X-rays upon living tissue, nor is it to be wondered at that a satisfactory explanation is still wanting. Quite the most interesting contribution to this subject which has come to our notice recently is that by Allen (*Journal of Medical Research*, June, 1903), dealing with the effects of X-rays upon living tissues of various sorts. This observer using a 12-inch high-potential coil, experimented with vinegar worms, protozoa, the capillaries of frogs, beans, lupin seed, human leukocytes, and clinical cases of cancer, etc. In the case of the worms he found that long exposures were necessary to affect them; that a deeply penetrating light was more destructive than a low one, and that the X-rays together with an active magnetic field were more effective than the magnetic field alone. In the capillaries of the frog there was a decided vasodilation following a short exposure.

Not the least interesting effect was that obtained upon beans. Twenty-eight beans were divided equally between two pots, one pot receiving in all one hour and forty minutes of X-rays, the other being the control. Thirteen beans grew up in the X-rayed pot and only seven in the control. In a similar subsequent experiment this result was confirmed. In a series of seven experiments to determine, if possible, the effect upon the human leukocyte there was an increase following the X-ray exposure in the number of white blood corpuscles in all but one case, a fact which, as Allen suggests, if constant, may have some bearing upon the curative effect of the X-rays as seen clinically. Most interesting are the reports of the histologic study of a number of clinical cases, which had progressed favorably after numerous exposures to the X-ray, in which no change was demonstrable except in the skin proper; and this observer is unable to substantiate the statements made by some writers as to necrosis of deep tissues or alterations in deep malignant growths referable to X-ray treatment. In one case of scirrhus of the breast, after 37 exposures,

though clinically improved, the carcinoma had become if anything more medullary.

In the summary to this interesting paper Allen suggests among other things the possibility that the relief from pain in cases of deep malignant growth may be explained by the capillary vasodilation, and concludes by saying that the clinical effects are not due to X-rays so much as to some other unknown but closely allied phenomenon.

The Clinical Importance of Albuminuria

So much has been written in reference to this all-important subject, and such a wide range of opinion has been expressed by various observers, that it is not surprising there should exist a somewhat confused notion as to the real importance of albuminuria as met clinically in individuals otherwise apparently well.

Among the most interesting contributions upon this subject is a recent paper by Schroeder (*New York Medical Record*, July 18, 1903) in which this observer calls attention to the fact emphasized by Dr Vanderpoel that although many applicants refused by insurance companies 15 or 20 years ago on account of albumin are still alive, a careful collation of the statistics of such cases shows that from four to five times more of these rejected applicants are dead than ought to be, according to the normal expectancy of life in men of their years; and further, that albuminuric individuals seldom live out more than one-half their expectation of life. This statement, as Dr Schroeder says, is important as it is based upon demonstrated facts and not upon theory. The very general tendency of many practicing physicians to attach but little importance to the occasional occurrence of albumin in the urine is well known, and that it is frequently regarded as of no significance from a pathologic viewpoint must be conceded.

The more, however, we learn of the histories of cases of chronic Bright's disease, the more often will it be found that early and transient albuminuria without other symptoms was an early and warning signal of the threatening danger. This assumption would seem to be borne out by the cases cited by Schroeder in which special attention is devoted to three cardinal points: the intermittence of the albuminuria, the occasional absence of tube-casts, and the frequency of grave kidney disease without apparent disturbance of the circulation.

It is of course true that many cases of albuminuria recover completely, and it is perhaps this well-known fact which has given

us a sense of false security, but we would heartily endorse the judgment of Schroeder that the term "physiologic" albuminuria should be avoided.

The conclusions reached by this observer are to the point, and all will agree that careful observation of these cases—which means frequent examinations of 24-hour specimens of urine to determine the daily quantity, the amount of urea, the specific gravity, the presence of albumin and casts; as well as repeated complete physical examinations of the arterial system extending over a period of months or even years—is the only way by which their significance can be accurately determined.

Twentieth Century Fourth-of-July

It would be interesting if vital statistics bearing upon epidemic fourth-of-July tetanus were available for the early years of the nineteenth century. In this age of progress and advanced civilization it is, indeed, somewhat appalling to find the flower of our youth needlessly sacrificed upon an altar of mistaken patriotism. Young America—and too often old—seems to love nothing so much as the opportunity to celebrate our national birthday with a continuous fusilade of blank-cartridge explosions. How little the signers of the Declaration of Independence dreamed of the whole meaning conveyed by that historic document! It is impossible to conceive of a greater miscarriage of the day than the annual harvest of deaths which recurs with unfailing regularity year after year, and which this year seems to have been especially virulent.

In a most valuable and timely contribution upon this subject, Wells (*American Medicine*, June 13, 1903) pointed out the record of recent years and prophesied the annual slaughter which has followed through the weeks succeeding our national holiday. Without the tabulated figures and plotted curves given by this writer, it would be hard to appreciate the peculiar relationship between epidemic tetanus, July 4, and blank-cartridge wounds.

According to this writer all attempts to isolate the tetanus bacillus from the cartridge, wad, or powder, making up this death-dealing implement, have been unsuccessful, though tetanus bacilli have been cultivated from the wad of a blank cartridge after its removal from an accidental wound.

While the tremendous number of cases of tetanus following blank-cartridge wounds suggests the presence of these virulent bacilli in the cartridges themselves, it could probably be shown

that any similar epidemic of analogous punctured wounds, as by old nails, would be followed by an equally large, if not larger, number of cases of true tetanus and death. Nevertheless it seems to us vital that the State or city governments should take some action in the matter. Let us first make absolutely sure that the inoculation of the cartridge wound is accidental and subsequent to the discharge of the toy pistol; and, secondly, we would recommend that the sale of all blank cartridges to minors be made illegal. Such a provision would not stop, but it might lessen, our annual death-rate from tetanus, and would add much to the true meaning of the day we celebrate on July 4.

Let Justice be Done

Two newspapers of this city, the *Press* and *Plain Dealer*, have recently given evidence of the all-too-prevalent tendency of newspapers to value lightly the public services of the medical man. Both these papers have said outright that the rapid rise in military standing of Leonard Wood has been due to favoritism shown first by President McKinley and second by President Roosevelt. Both these papers point out the fact that General Wood's military achievements upon the field of battle were not extraordinary. This is questioned by no one. Both papers, however, ignore the wonderful things accomplished in Cuba by General Wood as a sanitarian, when he held the position of Governor-General. It is worse than untrue to credit the beginning of this work to General John R. Brooke, who preceded General Wood as Governor of Cuba, and under whose command at Camp Chickamauga there occurred many hundred deaths from typhoid fever of young men in the prime of life whose lives would have been spared to the country if they had been commanded by an officer willing to receive and to act on the advice of his medical staff. The greatest sanitary crime of the Spanish war was committed by General Brooke, and it is a matter of history that the cleaning up of Cuba was only being done in a most half-hearted way until General Wood was given charge. General Wood's accomplishment in ridding Havana of yellow-fever for the first time in centuries was one of the greatest achievements in public affairs that the world has ever seen. Because it was done by a mere doctor, because it only saved lives by preventing disease, and, further, because General Wood did not assist in the slaughter of a few more Spaniards, the press is inclined to sneer at his advancement. History will say that General Wood accomplished one of the greatest

things that has ever been done in demonstrating to the world that a dread disease can be banished from its favorite climate when modern sanitary methods are properly and thoroughly applied. It is a sad commentary upon the point of view of our newspaper editors when they utterly ignore a great work of this humane character, and charge up to official favoritism the promotion so well earned by General Wood. It is most unfortunate that the newspapers should encourage the idea that the military man who slays the most of the enemy, or who permits the most of his own command to die from preventable disease, is more to be honored than the man who without any powder saves the lives of thousands of human beings by preventing the invasion of a fatal disease.

President Roosevelt, with his clear head and independent judgment, can, however, be depended upon to give to General Wood additional opportunity to use his well-tested and great ability in the service of the country. He will not be deterred by misguided and myopic criticism, and there are not wanting signs that the general public fully sympathizes with his attitude. Certainly the medical profession will heartily uphold the President in his determination.

True Extragenital Chancroid Lesions

In 1889 DuCrey first recognized and accurately described a bacillus which he found in the pus of soft chancres and which he considered the etiologic factor of the chancroid lesions as met clinically. Unna, in 1892, described a somewhat similar bacillus occurring in long chains which he found constantly present in the tissue from soft chancres. It remained for later investigators to establish the identity of the bacilli described by these two observers, and today most bacteriologists are agreed as to certain fundamental characteristics of this bacillus which occurs so constantly in the chancroid lesion. In a recent study devoted to the identification and cultivation of the chancroid bacillus, Davis (*Journal Medical Research*, June, 1903) was able to demonstrate bacilli corresponding exactly in morphology and staining reaction to the DuCrey bacillus in 32 out of 40 cases of genital ulceration clinically resembling chancroid. From eight cases pure cultures were obtained upon a media containing a large proportion of fresh blood, and also in two instances from chancroidal bubos and from one chronic discharging bubo.

Not the least interesting observation in this observer's valu-

able paper was the recovery of the same organism in pure culture from two cases of extragenital chancroids of the fingers—cases, too, in which there were no genital lesions, a most unique condition.

A monkey inoculated upon the back with a culture that came from Case I showed after eight days a shallow ulceration covered with an elevated crust from which a growth was obtained, in rabbits'-blood bouillon, which exactly corresponded to the parent culture, thus establishing conclusively the specificity of the organism obtained.

Quoting from Ullmann, Davis cites this observer's figures for the authentic cases of extragenital chancroid reported in literature, which he gives as but 64. Of these 22 occurred upon the fingers, and in all these 22 genital lesions were also present. As showing the great rarity of extragenital chancroid, he cites further the figures of Peterson who collected 9,000 cases of soft chancre, of which 8,992 were on or near the genitalia, leaving only 8 of extragenital site, of which 5 were upon the fingers.

Davis gives in detail the histories of the eight cases in which the pure culture of the chancroid bacillus was found, and in summarizing his observations concludes by saying that the results of his investigations contribute to the accumulating evidence of the specific agency of the bacillus of Ducrey, and he further expresses the belief that in the light of bacteriologic proof the prevalence of extragenital chancroid will prove to be larger than has been hitherto believed, a very interesting and unusual observation.

A Fraud Well Exposed

Many correspondents of the JOURNAL have sent us the circulars issued by the "Christian Hospital," Chicago. These circulars bore the name of Dr John B. Murphy, as "chief-of-staff," and they were mailed widely to doctors in Ohio and in the southwest. As in the case of the St Luke's Hospital (of Niles, Michigan), a fraud promoted by the same parties, the circulars offered the doctor a "diploma" for an office ornament and also a cash commission on all cases sent to the "hospital." Dr Murphy, of course, immediately warned the profession that the use of his name was not authorized, and then he secured from court an order enjoining the "hospital" from further publication of his name on its circulars. At the same time the Chicago Medical Society, with characteristic and most commendable energy, demonstrated to the

postal authorities that the institution was wholly a fraud, and secured an order debarring its circulars from the mails. Both this and the Niles fraud had one Probert as the active promoter, as was pointed out by this JOURNAL over two years ago when it exposed the Niles scheme. *American Medicine* for July 18, 1903, notes the interesting fact that Probert was recently Convict 6,843 in Waupun Penitentiary where he served time for embezzlement. On its face this latest scheme was a barefaced fraud, and any physician who was lured into it by the circulars was necessarily befuddled as to his moral sense, for no profit could come to him honestly in case the promises of the circulars were fulfilled. Dr Murphy well says that any physician who "bit" on this palpable rascality deserved the loss that he suffered. The only pleasant feature of the nasty occurrence is the renewed demonstration by the Chicago Medical Society of the good work that can be done by the organized profession.

[SELECTION]

The Minnesota State Medical Association

The Thirty-fifth Annual Meeting of the Minnesota State Medical Society which occurred in St. Paul on the 17th, 18th, and 19th of June, marked an epoch in its history and that meeting was the occasion of the birth of the Minnesota State Medical Association, which is destined to federate and bind together the members of the medical profession of this great State into one compact, harmonious and powerful body. Acting under the new Constitution the business affairs of the Association will hereafter be entirely in the hands of the House of Delegates, and the meetings of the Association as a whole will be entirely devoted to the reading and discussion of papers. As the Constitution provides for a meeting of the House of Delegates on the afternoon previous to the meeting of the Association, it is probable that a two days' meeting of the Association will be long enough. The House of Delegates, being composed of members elected from each County Society, will be thoroughly representative of the profession throughout the State, and particularly representative of the profession outside of the cities. A most important body, created by the new Constitution, is the Council. Eight Councilors have been appointed by the President—hereafter they will be elected by the House of Delegates—who represent the eight districts into which the State has been divided, and who are to act as organizers, peacemakers and censors of their respective districts. Each

Councilor is expected to visit the counties in his district at least once a year for the purpose of organizing component societies where none exist, of inquiring into the condition of the profession and of improving the zeal of the County Societies. The Council is also the Board of Censors, the Publication Committee and the Finance Committee of the Association.

In the future the election of officers will be entirely in the hands of the House of Delegates, and as no member of the House of Delegates is eligible to any office except that of Councilor, the opportunities for intrigue and office-seeking will be reduced to a minimum, a condition greatly to be desired. The natural result of this will be that the man deemed most worthy of the office of President will be elected to that office, irrespective of the locality in which he lives, and the custom which has hitherto prevailed of selecting the President from St. Paul, Minneapolis and the country in rotation will be done away with.

Another innovation, and an excellent one, places the scientific proceedings of each annual meeting of the Association in the hands of the Committee on Scientific Work, of which the Secretary is a member. This committee is instructed to compare and issue a program of the papers, discussions and other business of the Association *thirty days previous to the annual meeting*. By virtue of this provision each member will have ample notice of the meeting and can make his arrangements accordingly, and hereafter there will be no excuse for the tardy appearance of the program which has caused so much dissatisfaction at the last two or three meetings. The new officers of the Association are all men of enthusiasm, energy and ability, men who fully recognize their responsibilities and who will, we are confident, carry on the affairs of the Association during the year in such a manner as to insure its prosperity, and we predict that the next annual meeting, which is to be held in Minneapolis, will be the greatest in its history.

To these gentlemen we extend our congratulations, and offer our services, and we assure them that it will give us great pleasure and satisfaction if they will make use of the editorial or of the announcement pages of the *St. Paul Medical Journal* as a means of communication between themselves and the members of the profession of the State, or in any way that may serve the welfare of the Minnesota State Medical Association or conduce to the success of its next annual meeting.—*St. Paul Medical Journal*.

[SELECTION]

Concerning Volumes of Transactions

The question of continuing the publication of an annual volume of Transactions of the Minnesota State Medical Association was debated at the St. Paul meeting, and it was voted to publish such a volume as heretofore. We cannot help thinking that this is a mistake and we feel sure that before long this Association will, as most of the other similar Associations have done, give up this expensive and for the most part useless publication. There are undoubtedly a few members of the Association who keep and occasionally refer to the Transactions but we are confident that the number of those who do this is small, and that the majority of members never open the volumes and do not preserve them. The papers are all published in the local medical journals and can be readily referred to in the bound volumes of these journals. With the present voluminous output of medical literature and the copious indexes to be found in every medical library, it hardly seems wise for the Minnesota State Medical Association to spend a large part of its income in what seems to us, and to many other members of the Association with whom we have talked on the subject, an entirely superfluous publication.—*St. Paul Medical Journal*.

Book Reviews

Atlas and Epitome of Human Histology and Microscopic Anatomy. By Privatdocent Dr J. Sobotta, of Wurzburg. Edited, with additions, by G. Carl Huber, M. D., Junior Professor of Anatomy and Histology, and Director of the Histological Laboratory, University of Michigan, Ann Arbor. With 214 colored figures on 80 plates, 68 text-illustrations, and 248 pages of text. Philadelphia and London: W. B. Saunders & Co., 1903. Cloth, \$4.50 net.

The work depends mostly on the illustrations which are taken from microphotographs, and are very good. The text is brief, avoids discussion, and takes up the tissues and organs in groups. The book is carefully prepared, and well arranged, and should be valuable to the histologist, especially to those who wish the essentials with great elaborations.

Principles of Bacteriology, a practical manual for students and physicians. By A. C. Abbott, M. D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Sixth edition, enlarged and thoroughly revised. With 111 illustrations, of which 26 are colored. Lea Brothers & Co., Philadelphia and New York. Price, \$2.75 net.

This edition is arranged on the same plan as the preceding

ones, but is much enlarged and includes much material which was not in the former editions. The chapter of immunity has been revised so as to continue to be an authority on the subject, and the general bacteriology is quite up to the standard set by the rest of the book. The author's position as Professor of Hygiene gives additional weight to the chapters which deal with the application of bacteriology to public and private life. The book is one of the very best of the briefer text-books, which do not attempt to cover the whole of the very large series of known organisms.

Zapffe's Bacteriology. A Manual of Bacteriology for Students and Physicians. By Fred. C. Zapffe, M. D., Professor of Histology in the College of Physicians and Surgeons, and Professor of Pathology, Bacteriology and Hygiene in the Illinois Medical College, Chicago. In one 12mo volume of 350 pages, with 150 engravings and 7 full-page colored plates. Cloth, \$1.50, net; flexible leather, \$2.00, net. Lea's Series of Pocket Text-Books, edited by Bern B. Gallaudet, M. D.

The book is one of the Lea Brothers' Pocket Text-Book Series, and is very attractively prepared. The greater part of the first half is taken up in technic, with a brief summary of the various divisions of general bacteriology, while the last half deals specifically with the various bacteria. The nonpathogenic ones are first discussed, after which the pathogenic forms are taken up in order. Some of these, especially the form noted here as the pneumobacillus of Friedlander, which really represents the group of bacillus *mucous capsulatus*, are insufficiently discussed in relation to their importance. The diseases with uncertain etiology are discussed in the last chapter, and here the author puts himself on record as admitting Funck's claim that the "Sporidium vacinale" is the cause of vaccinia, and therefore presumably of variola, an assumption which carries no weight with students of those diseases. The page-illustrations are good and the colored plates are excellent.

Obstetrical Nursing. For Nurses and Students. Being an Elaboration of the Lectures in Obstetrics to the pupils of the Training School for Nurses of the John N. Norton Memorial Infirmary and the City Hospital of Louisville. By Henry Enos Tuley, A. B., M. D., Louisville, Ky., Professor of Obstetrics Kentucky University Medical Department, Visiting Obstetrician to the John N. Norton Memorial Infirmary, Louisville City Hospital, and Home for Friendless Women, etc., etc. Chicago: G. P. Engelhard & Co., 1902. Price, \$1.00.

This little book contains sixteen chapters on the following subjects: The Pelvis, Generative Organs, Embryology, Signs of Pregnancy, The Baby's Basket and Clothes, Care of the Pregnant Woman, The Accidents of Pregnancy, Labor, The Nurse, Conduct of Normal Labor, Operative Obstetrics, The Puerperium,

Child, Infant Feeding, Nursing in Sepsis, Advice to Expectant Mothers. An appendix contains food formulas.

Dr Tuley is so well known as a scientific practitioner of obstetrics, and as a teacher both with voice and pen, that we are not surprised to find his latest effort up-to-date, lucid and practical. To many physicians grown a little rusty or careless in their obstetric work this manual will prove a needed stimulus and a trusty guide. To nurses it must prove invaluable. Those who have not had the advantage of the training-school will find here the needed instruction; while those who were taught, however thoroughly, *only* in hospital or training-school, will be enabled to adapt their knowledge and themselves to the conditions of private nursing which are often quite different outside of institutions.

The recent graduate also by a careful perusal of "Obstetrical Nursing" may very soon acquire that familiarity with the practices of the lying-in room which distinguishes the experienced *accoucheur*, and the lack of which betrays the novice.

Medical News

Edgar Ickes has located in Fremont.

A. L. Jones has been appointed health officer of Lima.

A. J. Leitch, of Niles, is recovering from a severe illness.

S. McKenney, formerly of Bellevue, has located in Norwalk.

Craven W. Osborn, of Scott township, will locate in Pleasant Ridge.

Dr Walker succeeds Dr Kress at the Soldiers' Home at Dayton.

W. B. Secrest, of Kenton, will succeed J. E. Allport, of Hudson.

The medical firm of Willis & Smith, of Marietta, has been dissolved.

James McClure, of Marietta, is doing post-graduate work in New York.

Dr Cosner, of Mt. Vernon, has been elected physician for Butler township.

Mansfield will soon have a surgeon for the police and for the fire departments.

A. V. Davis, of Newark, left for the far west recently to be gone some weeks.

The new St. Alexis Hospital, of Cleveland, was thrown open to the public recently.

Caroline Colver, assistant physician at the State Hospital at Columbus, has resigned.

A. B. Smith, of Wellington, spent the month of July in Boston doing post-graduate work.

B. F. Humbert and B. B. Scott, of Mt. Vernon, have been appointed infirmary physicians.

Dr Prouty, of Bryan, has sold out to William Stockton. Dr Prouty leaves for Kokomo, Ind.

John Sipher, of Cleveland, and Miss Alma Waller, of Ravenna, were married recently.

William Graefe has been appointed fire and police surgeon of Sandusky, at a salary of \$50 a year.

A. H. Marvin, of this city, has removed his office from the Colonial Arcade to the Rose Building.

Frank S. Clark, of this city, has removed his office from the Colonial Arcade to the Rose Building.

W. R. Thompson, of Troy, has filed a petition of bankruptcy in the United States Court at Cincinnati.

There are some very suspicious circumstances connected with the death of David R. Francis, of Mansfield.

The Allen County Medical Society held its regular meeting at Lima. Dr Jones read a paper on "Tuberculosis."

William Lincoln and Walter Lincoln, of this city, have removed from the Osborn Building to the Lennox Building.

H. M. Osborne, of Painesville, has been discharged from the hospital. The Doctor will take a vacation after his late illness.

The physicians of Lancaster and Fairfield met at Lancaster and effected the organization of the Fairfield County Medical Society.

A. W. Taylor, of East Liverpool, has been sustained by Auditor Davidson in his assertion that he still fills the office of City Surgeon.

Ralph Tidd has been appointed acting assistant surgeon at the United States Hospital at Cleveland, to succeed John Mohr, resigned.

B. M. Tower, of Conneaut, is again able to leave his bed after a severe illness. He will take a vacation of several weeks before resuming practice.

A proposed medical combine has been proposed between the

Laura Memorial College, the Miami Medical College and the Presbyterian Hospital.

The Greene County Medical Society held its fifty-third anniversary at Xenia. Dan Millikin delivered an address entitled "The Irrepressible Savage."

T. Y. Grubbs, formerly of Washington C. H., has been appointed the head of the committee to prevent disease in the flood-stricken district in and around Topeka.

R. J. Morgan and S. S. Tuttle, of Van Wert, who were hurt in an automobile accident at Marion, Ind., recently, have been brought home. They are recovering nicely from their severe injuries.

Phenacetin is made in Germany, patented in the United States and is sold for \$1 an ounce. In Germany it sells for 25 cents an ounce. Germany does not grant patents on articles used in the healing art.

The Fayette County Medical Society held its first regular meeting at Washington C. H. Edwin Ricketts, of Cincinnati, was present and was the guest of the Society. His address was very interesting.

At a recent meeting of the Columbus Academy of Medicine, J. F. Baldwin read a paper on "One Thousand Abdominal Closures by a New Method Without a Hernia." F. F. Lawrence took for his topic "Surgery in Children."

William E. Pricer, Dr O'Neill, Dr Merchant, Lester Keller, William F. Marting, and William S. Eakman have been appointed on the medical staff of the Deaconess' Hospital of Ironton. Clark Lowry has handed in his resignation.

Pearl Hahn, of Cleveland, and a graduate of the Cleveland College of Physicians and Surgeons, holds the honor of having been the first lady to fill the position of house physician of the Seventeenth Street Lying-in Hospital of New York.

The following program was rendered at a recent meeting of the Butler County Medical Society: C. C. Mason, "The X-Ray in Surgery"; F. G. Hornung, "The Physiologic Value of Food"; G. Williams, "The Nurse and the General Practician."

Columbus physicians voiced their opinions at a meeting recently held in that city regarding the system of medically caring for the city's poor. Everyone present was dissatisfied with the present system and a new one in all probability will be the outcome.

At a recent meeting of the Adams County Medical Society at West Union, R. Y. Littleton, of Rome, read a paper on "The Treatment of Typhoid Fever," and Dr Hall read a paper on "A Few Essential Points in the Diagnosis of Pelvic and Abdominal Tumors."

Several interesting clinical cases were shown at the June meeting of the newly-formed Columbiana County Medical Society. No regular program had been prepared, but the attendance was large and the meeting was pronounced a success. The society adjourned to meet in Salem the second Tuesday in July.

Medical and scientific men throughout Germany are indignant at the recent action of the authorities in forbidding any further experiments with the germs of the plague. If every country adopts these measures then all hope of combatting this disease successfully will be lost. German scientists say that the search will go on in spite of the Kaiser.

Deaths

Grailey Henderson of Magnetic Springs died recently from an overdose of chloral.

David R. Francis, of Mansfield, was found dead in his office. He was about 65 years of age.

E. W. Parker, of Gallipolis, died of heart disease after only a short illness. He was 54 years of age.

A. L. Carrick, of Cincinnati, died recently. Dr Carrick was born and received his medical education in Dublin, Ireland.

Andrew J. Newell, of South Webster, highly esteemed throughout his County, died recently at the age of 65 years.

E. R. Saye, a pioneer physician of Wood County, died recently at his home in Prairie Depot at the age of 78 years.

O. Evarts, one of Cincinnati's most prominent physicians, died recently, after an eight weeks' illness with appendicitis. He had reached the age of 77 years.

A. B. Richardson, superintendent of the Government Hospital for the Insane at Washington, D. C., and former superintendent of the Columbus State Hospital, died of apoplexy at the age of 55 years.

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The Ill Health of the Poet Whittier

BY GEORGE M. GOULD, M. D., PHILADELPHIA

Editor of *American Medicine*

Whittier was born December 17, 1807. He attained the full height of his mature years, 5 feet, 10½ inches, when he was about 15 years of age, but he was always slender, and never strong of muscle. *Pickard.*

At the age of 17 he sustained injuries from over-exertion in farm work, from the effects of which he never fully recovered. *Pickard.*

His brother, 5 years younger, was his superior in strength and led off in "breaking" the steers and colts, and in other exercises requiring bodily vigor. *Pickard.*

He "was accompanied by Dr Crane, as in the condition of his health it was not thought prudent for him to travel alone." *Pickard, 1831.*

He had "that consciousness of physical weakness which thereafter was seldom absent." *Pickard, 1832.*

I have been embargoed for the past three weeks, unable to stir; and for a week past unable to *see*, the same persistent influenza having finally taken possession of my eyes. I send you something which I scrawled yesterday with a bandaged eye. *Whittier, Letter, 1831.*

But a continuance of ill health has kept me at home. I have scarcely done anything this winter. There have been few days in which I have been able to write with any degree of comfort. *Whittier, Letter, 1832.*

My health has been bad, is so at this moment. *Whittier, Letter, 1832.*

All of my friends are complaining of me for not answering letters. Continued ill health, and natural indolence, etc. *Whittier, Letter, 1833.*

Always excepting ill health. *Whittier, Letter, 1833.*

My health is vastly improved; the blues have left me; I go to husking frolics and all that sort of thing. *Whittier, Letter, 1833.*

I must decline thy proposal; my health recently has been uncertain, and I am just getting over an attack of my old complaint, palpitation of the heart. *Whittier, Letter, 1836.*

So broken in health. *Pickard, 1836.*

I have some doubts about its agreeing with me to write very steadily, as since the warm weather I have been troubled with my old complaint of palpitation. *Pickard, 1837.*

My health has suffered from my residence in New York. *Pickard, 1837.*

At times he was incapacitated for work by serious illness. *Pickard, 1838-1839.*

Much broken in health. *Pickard, 1838.*

My health is most decidedly improved, not by drinking the rascally drugged water here, but by travel, exercise, and open air. *Whittier, Letter from Saratoga, 1839.*

Headache and weariness. *1839.*

Much refreshed and strengthened by his travels. *1839.*

During his residence in Philadelphia (1837-1840) a noted physician examined him and reported that there was no immediate cause for anxiety (as to his heart) and with care he might live to be 50 years of age. *Pickard.*

It was his intention to go to the World's Convention held in London; and we did not know his reason for remaining at home, although aware that he was ill during the winter. (*His cousin, Reminiscences, 1840.*)

His friends had now become alarmed at the condition of his health, and a skilful physician who was consulted, decided that there was serious trouble with his heart and that he must give up at once the labor and anxiety of editorial life. *Pickard, February, 1840.*

It was hoped that the sea voyage would benefit him. He went so far as to procure his outfit and engage his passage. But upon consulting his intimate friend, the skilful physician, Dr Henry I. Bowditch, he was told that while the voyage might prove beneficial if he could avoid all the excitements of society, there was a chance of serious consequences from any mental or physical exertion, and it would be advisable to remain at home. He did so. *Pickard, 1840.*

I am still so far as my failing health admits of, etc. *Whittier, Letter, 1840.*

The excursion was given up as were so many projected trips for health and pleasure during his whole life, because he found himself not strong enough to undertake them. *Whittier, Letter, 1840.*

Again stopped by the delicacy of his health. *Whittier, Letter, 1840.*

The extremely delicate state of my health has compelled me to forego the pleasure. *Whittier, Letter, 1841.*

The hand of sickness is sometimes laid heavily upon me. *Whittier, Letter, 1841.*

From increase of indisposition was unable to go farther. *Pickard, 1841.*

Whittier's failing health and his need of rest. *Pickard, 1841.*

Up to 1847 nearly all the newspapers he had edited had been interfered with and suspended on account of the delicacy of his health. *Pickard.*

I have of late been able to write but little, and I have scarcely answered a letter for a month past. I dread to touch a pen. Whenever I do it increases the dull wearing pain in my head which I am scarcely ever free from. *Whittier, Letter, 1847.*

I feel a growing disinclination to pen and ink. *Whittier, Letter, 1849.*

Overworked and tired * * * * I want mental rest. I have already lived a long life, etc. *Whittier, Letter, 1849.*

In my present very weak state of health, etc. *Whittier, Letter, 1849.*

I am glad thou art able to bear what Charles Lamb calls "the dull drudgery of the desk's hard wood." *Whittier, Letter, 1849.*

Illness severe and protracted confines me at home. *Whittier, Letter, 1849.*

A sudden and severe attack of illness. *Whittier, Letter, 1850.*

The worst of it is that a large part of the time I can neither write nor read. *Whittier, Letter, 1857.*

Lame all over with rheumatism as I am. *Whittier, Letter, 1857.*

Frequently ill. *Pickard, 1857.*

The state of my health which makes the writing of a letter a painful burden. *Whittier, Letter, 1857.*

Written during illness. *Whittier, Letters, 1859.*

I am really very ill,—so much so that the writing of a brief note like this causes me a great deal of pain. *Whittier, Letter, 1861.*

I was too ill to write anything else. *Whittier, Letter, 1863.*

I cannot do much more with the proof owing to illness. *Whittier, Letter, 1865.*

I was sick. *Whittier, Letter, 1865.*

All this summer I have been utterly unable to do anything of the kind. *Whittier, Letter, 1866.*

If my health allowed me to write. *Whittier, Letter, 1866.*

I am forbidden to use my poor head at present. *Whittier, Letter, 1866.*

I am sorry to send so bad a copy, but my head will not allow me to rewrite it. *Whittier, Letter, 1866.*

A miserable, inexorable headache engrosses me. I am a bundle of nerves for pain to experiment with, and I can think of nothing else until this subsides. *Whittier, Letter, 1867.*

At one time last winter it seemed hardly possible that I should live to see the orchards bloom again, but here I am still. *Whittier, Letter, 1867.*

After two or three days of pain and lassitude, when the grasshopper becomes a burden, I feel so powerless and worthless, so lost in the absorbing egotism of mere physical sensation, etc. *Whittier, Letter, 1867.*

If my head will allow me to copy it, etc. *Whittier, Letter, 1867.*

I would like to see Dickens but I have no head fit to hear him. *Whittier, Letter, 1867.*

During the winter of 1867-68 Mr Whittier was quite seriously ill with a fever. On the eighteenth of January he was unable to write. * * * * he had been more seriously ill than he had ever been previously. *Pickard.*

Too ill for visiting. *Whittier, Letter, 1869.*

I am in no condition of health to write at all * * * * the book has cost me a miserable headache and general out-of-sortness. *Whittier, Letter, 1870.*

Not well enough to go into a crowded hall for two hours. *1871.*

But a few hours of reading or writing entirely prostrates me. Indeed, for a long time I have only been able to write from half an hour to an hour at a time,—often only a few minutes. *Whittier, Letter, 1874.*

My head possessed by the fiend Neuralgia. *Whittier, Letter, 1876.*

He was skilful in devising excuses for short absences from the crowded rooms, and in the quiet of his chamber he would soon get rid of a threatened headache, or mitigate the intensity of his suffering, and appear again among his guests ready to enjoy and respond to their greetings. *Pickard, of about 1877.*

I cannot read in the evening, and not long in the daytime. *Whittier, Letter, 1881.*

When traveling his eyes insisted upon seeing every landscape on the route, and studying the faces of his fellow-travelers. Hence railway traveling was found very fatiguing. *Pickard, 1881.*

I have worn the same glasses for 20 years, writes Holmes to Whittier in 1881.

Hearty enjoyments of walks and readings under the oaks and pines. *Pickard, 1886.*

Whittier goes nowhere—he *never* visits—his health does not let him. *Mrs Fremont, 1889.*

The delicate handwriting has become enlarged to suit the failing sight. *Pickard, 1889.*

I am feeling the burden of many years, and am not able to read or write much, owing to failing sight. *Whittier, 1889.*

He read more or less each day, keeping well informed of current events. *Pickard, 1892.*

He had been subjected to sleeplessness all his life. *Pickard, 1892.*

He had a paralytic stroke on September 3, 1892, and died September 7, aged 84 years and 8 months.

The trouble with his heart became less annoying in later years than in middle life. *Pickard.*

All his life he was seriously affected by his inability to secure sleep when it was most needed. *Pickard.*

The capacity for sleeping, he was wont to say, is the secret of the Englishman's power. *Pickard.*

After he had passed middle life his right ear lost its sensitiveness, and he became partially deaf. *Pickard.*

At 68 the poet was already thinking of himself as in his sere and yellow leaf, little dreaming that one-fifth of his life, the best and most useful years still remained to him. *Pickard.*

The illness constantly wearing upon Mr Whittier was believed by the physicians whom he consulted to be an affection of the heart, and he was warned to be exceedingly careful to avoid excitement. The pain in the region of the heart was often severe. His headaches, more constant and nearly as painful, were more easily borne as they did not seem so dangerous. These attended him all his life and accompanied every mental exertion. He could not write or read continuously for half an hour, in middle or later life, without severe pain in the head. This debarred him from lectures, receptions, and public dinners unless an opportunity was given him to retire without notice and without causing a disturbance. A continuous mental strain of two hours was intolerable to him. This accounted for his frequent and adroitly managed disappearances, during such festivities as those of his birthdays. This gave him a reputation for shyness which did not really belong to him. He was a man to enjoy society, and would have done his full part of the talking and listening in any company but for the dread of the inevitable penalty. *Pickard.*

Whittier was abstemious from necessity and habit, seldom came to the (*Atlantic Monthly*) dinners held once a month. On account of delicate health he had accustomed himself to simple fare, and he never tasted wine or used tobacco. *Underhill Biography.*

Our poet has been remarkable for an extreme sensitiveness coupled with nervous force, while all his life he has been in delicate health and has suffered from nervous headache. *F. H. Underwood, Biography.*

He was accustomed to attribute the delicacy of his health throughout life to the methods of toughening the constitution in vogue when he was a lad. No flannels were worn in the coldest weather, and the garments of homespun though strong and serviceable were of open texture, etc. *Pickard.*

Mr Whittier had the misfortune to be color-blind, in respect to the shades of red and green. But he thought he had an unusual appreciation of the yellows, which fully compensated him for this defect. He saw no difference in color between a

red apple and the leaves of the tree upon which it was growing. It was only the white or yellow rose that had for him any beauty except of form. He thought he enjoyed the splendors of an autumn landscape in a wooded country as much as the ordinary observer, especially if there was a fair admixture of yellow foliage * * * * His mother discovered this defect when, a little boy, he was picking wild strawberries. He could see no difference between the color of the berry and the leaf. "I have always thought the rainbow beautiful," he once said with an amused smile, "but they tell me I have never seen it. Its only color to me is yellow." * * * * Dr Jeffries, an authority on color-blindness, says that Mr Whittier was a typical specimen of the infirmity, and further, that the little wood-cut portrait of him published in Houghton Mifflin & Co.'s book catalogue is the best picture he has ever seen of the characteristic look of the color-blind. *Pickard.*

The tradition is that Mr. Bachelor was a man of remarkable personal presence, and was particularly noticeable on account of his wonderful eyes. They were dark and deep set under broad arches, and could throw lightning glances upon occasions. For more than a century the "Bachelor eye" has been proverbial in New Hampshire and in Essex County, Mass., and the striking feature has been steadily perpetuated. The resemblance between Whittier and Webster were long ago observed by those who were unaware of any relationship. Though unlike in many respects, there appeared to be a marked similarity in their broad and massive brows, swarthy complexions, and expressive eyes. The common characteristics of the eyes were in looks of inscrutable depth, the habit of shooting out sudden glances, and the power of tender and soulful expression as well. It is now known that not only Whittier and Webster, but William Pitt Fessenden, Caleb Cushing, William B. Green, and other prominent men, inherited their fine features, penetrating eyes, and gravity of manner, from the same ancestor. The majestic bearing and presence of Webster were everywhere known. The keen glances of Cushing, the eminent scholar and diplomatist, and the deeper, haughtier looks of Colonel Greene are well remembered in Massachusetts. *Underhill, Biography.*

(Whittier descended from Rev. Stephen Bachelor [or Bachelor] of Hampton, N. H., through his mother, Abigail Hussey.)

The nature of the mysterious malady which afflicted Whittier was never suspected by himself, his friends, or his physicians. It was the same in the cases of De Quincey, Carlyle, Darwin, Huxley, Browning, Spencer, Parkman, Mrs. Carlyle, Nietzsche, and Wagner. As one gathers to a focus the extracts concerning the ill health of each, the truth bursts on the view except of those who do not wish to see it. In life it was hidden by habit or the discontinuousness of the symptoms, because the medical world had not seized upon the principle either of accurate

intuitive or scientific inductive diagnosis, and also because the symptoms, as is usual in such cases, although directly connected with ocular use, usually left the eyes free from trouble and were found in distant organs. The peculiar blindness to the fact, the obstinate inability to draw so simple an induction is astonishingly seen however, in the case of Parkman and Nietzsche, who with his vivid and intense cerebral symptoms had equally as crying ones in the eyes themselves.

The fertility with which patients invent irrelevant reasons for their ocular affections is only equalled by the same ingenuity in explaining their distant but ocularly-caused reflexes in some whimsical way. All of De Quincey's malady was ascribed to a knock on his head when he was a schoolboy; Darwin's life-sufferings were said to be due to the Beagle voyage; those of Parkman to his dysentery while on a lark among the Indians of Oregon. A similar mistake is at once found upon opening the Whittier biography. Whittier's child-like and even childish theory of the pathogeny of his 50 years of illness may be passed with a smile, and betrays the slight want of virile stoicism which forces itself on the attention of the medical reader of his biography. Another theory was that his sufferings were due to over-exertion in farm work at 17, which injured him and "he never fully recovered from it." Probably to this cause, or to the mystery of fate, was ascribed his "heart-disease," even a Philadelphia authority having told him at the age of 30 or 33 that he might with care live to the age of 50. "Dilation of the heart" was only finally laughed out of thought in Huxley's case, by Sir Henry Thompson a few years before the patient's death. Wagner was worried by it, and the excerpts show how it haunted Whittier much of his life. In all their cases, the "palpitation," naturally attracting the patient's attention and alarming him, was probably due to a reflex from eye-strain. I have had several cases in which such a relation was clearly demonstrated, and others have been reported. Whittier himself says that writing steadily produced palpitation "his old complaint,"—"old" at the age of 29! If it was an organic disease of the heart it would not have been produced by writing, would not have troubled him synchronously with eye-strain, would not have bettered as he grew older, and disappeared entirely with fully established presbyopia. If Whittier's "cardiac" trouble was really gastric it would not change the fact of its ocular origin. Many patients have been frightened when making the common blunder.

Raised upon the farm and working hard every day, with no

pronounced tendency driving the boy to reading, the records show no sign of ill health or of eye-strain unless the "slenderness," "never strong of muscle," etc., are thus classed. But that at the age of 23 his health should be so bad that a physician was needed to accompany him on a short journey is highly significant, but, without any explanation of the nature of the disease or symptoms, it is fully as mystifying. A little later, though in the same year, "influenza took possession of his eyes," making it impossible to see, and compelled the bandaging of one eye. The next winter he was kept at home, and doing nothing, by ill health, able to write with any comfort for but a few days. Already there is the recognition of the fact that writing produces immediate illness, and in the twenty-fourth year he cannot answer the letters of his friends. Suddenly "the blues have left" and his health is vastly improved, and he goes to husking frolics, etc., but as suddenly the old woes return. Travel, exercise and open air "vastly improve" his "broken health," followed by headache and weariness, followed again by health in travels. There is a general going from bad to worse, however, until his friends are "alarmed" and he is forbidden the trip to London, "as were so many projected trips for health and pleasure during his whole life." If I am correct in the theory that his ill health was entirely due to the use of his eyes in reading and writing, the advice not to go to London, and not to take all the other trips, was the reverse of good.

That this theory is true is proved by Mr Whittier's own words written when he was 39:

"I have of late been able to write but little, and I have scarcely answered a letter for a month past. I dread to touch a pen. Whenever I do, it increases the dull wearing pain in my head which I am scarcely ever free from."

Again two years later he writes: "I feel a growing disinclination to pen and ink."

It must be noticed that with compound hyperopic astigmatism present (as it must have been in his case), Whittier was now beginning to have the added irritation and strain of presbyopia. The complaints multiply and the illnesses become more protracted and more severe. As with most of the other patients studied, especially Wagner, there was the deep conviction of growing old. Whittier, at 41, says "I have already lived a long life." At 49, he "can neither read or write a large part of the time," and the writing of a letter is a "painful burden." When he was 53 he writes: "I am really very ill,—so much so that

the writing of a brief note like this causes me a great deal of pain." At 55 he "was too ill to write anything else," and at 57 he cannot correct more proof because of illness. At 58 he could not write all summer, his "health will not allow him to write," his "head will not allow him to copy" a poem, and at 59 his "miserable inexorable headache so engrosses him" that he seems to himself "a bundle of nerves for pain to experiment with," and "after two or three days of pain and lassitude" he feels "powerless and worthless, so lost in the absorbing egotism of mere physical sensation," his "head will not allow him to copy," etc. He did not think he should live to see the orchards bloom again, shows the same presence of death that afflicted Darwin, and far more keenly, Wagner.

The end of presbyopic failure and the resultant climax of intensity of reflexes comes at this time. Even at 62 "the book has cost me a miserable headache and general out-of-sortness," an expression that shows a decided lessening of the severity of the reflex. It takes a few hours of reading or writing to prostrate him at the age of 66, and in the sixty-ninth year he gets rid of a "threatened" headache by leaving the room for awhile, returning soon to his guests ready to respond and to enjoy, etc.

With completed presbyopia, naturally a little later than usual in his case, of course the reflexes cease and, barring the infirmities of old age, there is freedom from the 50 years of wretchedness. At 79 there are hearty enjoyments of walks and readings under the oaks and pines, during the summer. Even at 84 he "read more or less each day, keeping well informed of current events,"—but there is no word of the headaches of former years.

To one who had not heard from many patients the tale of their sufferings exactly like that of Whittier, and who had not observed in them the same results of self-scrutiny, exhaustion, and sensitiveness, the fact of his daily concern and emphasis of pain, might itself seem morbid. But the sympathetic oculist will make no such mistake. There is no disease more terrible in its intensity of pain, more likely to crush out virility and morale, than this agonizing affection. Had Whittier not been essentially of the heroic type, a Friend who by ancestry, faith, and nurture had not been predestined to quiet valor and endurance, the pain he suffered would not have left him his heart of healthy and sunny manliness. Our pity for his sad lot, we who know what he endured, is in reality heightened. It is no small grief to feel every attempted avenue of ambition closed to a young

man of superb intellect and ability by some silent, subtle, palsying evil in one's innermost life, the nature of which cannot be divined. What a pathetic fact for such a man to find at 40 that "nearly all the newspapers he had edited had been interfered with and suspended on account of the delicacy of his health." What a sorrow for one with splendid enthusiasm for a great cause, with exceptional political power, and with absolute self-abnegation, to leave the awful and imperative national struggle, and go back to the home and to bed to nurse his wracked brain. And then never to find the sleep he so vitally needed.

There can be in no case and particularly in Whittier's case, no Mephistophelian satisfaction in supposing the world and poetry gained by disease. The little boy who made verses in the back part of the room while the rest in his hearing chattered away their evenings, who never ceased to make them even in the mob-days of the antislavery contest, who continued to do so even when in deepest misery and during the hardest physical or intellectual labors,—such a man would not fail to be a poet even though his clothes were drab and of antique fashion, his heart impassionate, and his eyes color-blind.*

The awfulness of the pathos of it all is only heightened by the knowledge we now have, that had his life been cast among ours of today he could have found instant and permanent cure of his now well-understood "nervous headaches." Every good American oculist of a few years' experience has had thousands of such patients. But there are still among us other thousands unnecessarily suffering precisely as did this most noble, pure and lovable man.

*Color-blindness is more frequent among quakers than others, more among men than women. It has no pathologic significance in Whittier's case nor in that of any patient. Color-blindness, it has been demonstrated, is preventible. Little children who have been taught discrimination of colors in the kindergartens, are seldom or never thus devoid of normal color-sensations. Dr Jeffries must be incorrectly quoted, because one cannot imagine how it could affect physiognomy or the expression of the eyes in the slightest degree. The "Bachelor eye" should be of interest to the sillies who aver that the eye has no influence upon facial and esthetic expression. Its peculiar character may have been due to a generation-long effort to overcome eyestrain, a mental and ocular intensity aroused by the effort to converge and accommodate.

The Object to be Attained by an Organization of Assistant Physicians

BY A. P. OHLMACHER, M. D., GALLIPOLIS
Superintendent of the Ohio Hospital for Epileptics

It impresses me as a very gratifying compliment to meet with you on this occasion, the object of which, as I understand it, is to perfect an organization of the Assistant Physicians in the State Hospitals of Ohio. Organization is the order of the day in civilized society. Our medical profession has at last awakened to its importance and in each principal city of Ohio, in the State at large, and in the whole United States, physicians are banding for the purpose of advancing their common interests. Why, therefore, should not the physicians in the State Hospitals of Ohio unite into a compact body for similar purposes? Personally I have long been impressed with the desirability of an association such as is contemplated in this meeting, and I am pleased to be given this opportunity of publicly endorsing the plan.

Numerically the assistant physicians are the strongest medical factor in the State Hospitals of Ohio. For the proper administrative and medical conduct of the State Hospitals, your group of doctors is indispensable. There are many advantages not now enjoyed by you that could be attained were you to make properly directed organized effort. Therefore, I counsel you to organize, and, because of your number, and because of the importance of your work in the State Hospitals, I predict success for your Association.

A number of phases indicating the benefits to be secured by your Association have already been mentioned. I shall, therefore, venture to outline briefly what, to my mind, are some of the possibilities in the way of medical-scientific advancement which, above all else, should be the ultimate aim of your confederation.

At the outset, I am compelled to make the confession that the strictly medical work in the Hospitals of Ohio is, relatively, on a very low plane. By this I mean that considering the enormous, almost unlimited possibilities afforded by these Hospitals, and the results attained, the medical work is far below that found in other medical establishments, as, for instance, in well-conducted public or private general hospitals, or even in good private special hospitals. Ponder for a moment on this statement: Ohio has seven principal State Hospitals populated by approx-

Read at the preliminary meeting for organization of the Association of Assistant Physicians of the Ohio State Hospitals, held July 16, 1903, at the Columbus State Hospital

imately 8,000 individuals sick in mind or body, cared for by about 40 physicians, at an annual cost, for maintenance alone, of nearly \$2,000,000. And still we can practically count with the fingers of one hand the contributions of the last year to the advancement of medical knowledge from all this aggregation of material for medical research, of possible workers, and of pecuniary resources. Is not the spectacle a sad one? And need we wonder that the medical profession as a whole looks askance at the medical work in our State institutions?

Consider also the aspect so tersely stated by the late and much-lamented chief executive of the institution in which we are now assembled, when he remarked that our State is spending two millions of dollars annually to provide "hotel-accommodations" for its afflicted, and not one penny toward investigating the nature, cause, treatment, or prevention of the ills bringing to the State this enormous burden. Even from its financial side this absurd proposition makes so strong an appeal that every intelligent layman whose taxes aid in maintaining these Hospitals sees its force the moment it is presented to him in this blunt, business-like form. Surely its sting must be appreciated by the many thousands of citizens of Ohio whose friends and relatives have found retreat in our Hospitals, especially when they come to realize that all hopes of present benefit or recovery, or of prevention for future generations, rest upon the result of scientific study.

To you, the assistant physicians in these Hospitals, nothing new is contained in the foregoing assertions. Most of you are young, active, and alert, and you have observed the conditions just portrayed. You have remonstrated against them and have wished them rectified. Coming, as most of you have, to these institutions fresh with the enthusiasm of recent medical college life, you have by contrast keenly appreciated their poverty in scientific facilities, in scientific spirit, and in scientific work. Many of your fellows have been driven from service through disappointment in the conditions; those of you who remain have been compelled to sacrifice high ideals, and to helplessly witness the fleeting of golden opportunities. All of this is radically wrong. It is out of accord with the great progress made in medicine in other lines. It should be remedied, and in a propaganda for this purpose your contemplated Association should vigorously interest itself, since the initiative must be taken in the State Hospitals themselves, and the assistant physicians, whose idealism still evokes enthusiastic response and effort, are the natural factors in forwarding this important reform.

It will be impossible in this limited address to go into details concerning the many and various lines in which the medicine in our State Hospitals can be made more worthy the name. As topics for deliberation, I wish merely to mention such as the establishment of a clinical and pathologic laboratory under competent direction in each State Hospital; the provision of a well-conducted general hospital, equipped for first class medical, surgical and special work, together with a training-school for nurses and attendants; the formation of a reference and working medical library; the appointment of a representative medical advisory board and consulting staff. More important than all of this, to my mind, is an opportunity for postgraduate study on the part of the assistant physicians, especially an opportunity for acquiring a training in the methods of scientific observation and research. This brings me to speak a moment about a scheme that has claimed my attention ever since coming in contact with our State Hospitals, namely, that of founding a central institute for teaching and investigation. Most of you are, no doubt, aware that agitation in favor of this project is now actively going on and that the endorsement of the Ohio State Medical Association has been secured, and a committee from this large and influential organization appointed to forward the movement.* Further elaboration of the plans of the proposed Institute can best be postponed for a future occasion when your Association shall have become established. But even at this time I wish to emphasize my conviction that a State Pathologic Institute along the lines contemplated would be a most desirable agent for improving the medical work of our State Hospitals. It would constitute the nucleus through whose educational influence each assistant physician in our Hospitals who chose to enlarge his scientific horizon could do so, thus reviving in the separate Hospitals the scientific spirit now so completely dormant. It would go far toward realizing the ideal of a postgraduate school for assistant physicians. With the training obtained in the Institute, each of the Hospitals could be provided with at least one assistant physician competent to fill the position of Resident Pathologist. The methods of clinical and pathologic research could be acquired, and under the guidance of the Institute, assistant physicians of the various Hospitals could prosecute original investigation upon the material within their own doors.

I repeat that I am confident, knowing the spirit that ani-

*Some further ideas concerning the contemplated central laboratory will be found in my paper read before the Ohio State Medical Association, June 4, 1903, entitled "The Laboratory Movement in Ohio's State Hospitals," CLEVELAND MEDICAL JOURNAL, July, 1903.

mates this preliminary step toward an Association of the Assistant Physicians of the Ohio State Hospitals, that the scheme of a State Pathologic Institute appeals to you as worthy of encouragement, and those of us interested in the movement feel assured that your hearty support and cooperation await us.

The Antitubercular Dispensary

BY JOHN H. LOWMAN, M. D., CLEVELAND

The dispensary can play a very important rôle in the antitubercular movement. Its two great advantages are that it can be administered economically, and can reach a large number of individuals, in fact almost all the poor in a densely populated district can be brought under its influence. Its first aim is to strengthen the weakened individual so that he may resist the influences that predispose to tuberculosis, and, incidentally, to prevent the development of other diseases as well. While these are the dominating influences of the dispensary, it fulfills many other offices of the general antitubercular movement; it can register those who are infected more easily than any other agent; it can locate the houses in which the tubercular people live; it can discover the infected houses which have long become more or less virulent centers of infection; it can educate the people along fundamental hygienic lines; its agents are welcome visitors in the homes of the sick where they can instruct the members of the family in the care of those who are ill, in the protection of themselves against disease, and in the recognition of the early signs of tuberculosis in themselves and in others. The dispensary becomes the feeder to the sanatorium. It can select the proper cases and thus aid and protect the sanatorium against the evils of the asylum. It can also become a spy on the unhygienic ill-ventilated tenement-houses in its neighborhood, places that sooner or later are likely to become new centers of contagion. It has thus insensibly an influence through its patients on the general cleanliness and health of its district.

In France where the dispensary has shown the greatest activity it has already proved itself of great value in the reduction of the mortality from tuberculosis.

The dispensary exists in Germany also, but there it has limited itself mainly to the selection of suitable cases for the sanatorium.

In Belgium, Italy, Brazil, the Argentine Republic and other Latin countries, it is the principal agent in the antitubercular

movement. The French, English and Germans have each answered the tubercular question in a different way, and each have been successful. The English have attacked the unhygienic houses by destroying them, and by building others on sanitary principles have diminished in a most potent way the centers of infection.

Less has been done in England for the sanatorium and the dispensary. The French have provided a dispensary and marine sanatoria for children, but have done but little for the general sanatorium or the unsanitary domicile. Although some houses have been destroyed, few new ones have replaced them. The German energy has been in the direction of sanatoria. In the last two years, however, the domiciliary question has awakened a lively interest, and many houses for the poor have been built especially in Cologne. The dispensary, as I have said, has been used in Germany merely as an adjunct to the sanatorium. It cannot be denied that the attitude of the English and French is very logical. This would be apparent to everyone if the subject were a narrow one. To destroy the bacillus in its habitat and to protect the individual is the legitimate way to proceed. It is the practice with smallpox and typhoid fever. No number of pest-houses without vaccination and quarantine would prevent a smallpox epidemic, and no number of general hospitals without regulation of the water-supply by a pure source, filtration, or boiling, would protect a community against typhoid fever. Smallpox and typhoid fever are simple questions, momentous though they may be, in comparison with tuberculosis with its varied phases and universal extension. It is easy to see that the difference lies in the slow and insidious development of the disease and the percolation of the unsuspected individual into all classes and places where he is difficult to find and still more difficult to remove. Hence the extreme complexity of the whole movement! Hence its kaleidoscopic character and the many sides from which it can be approached!

England has long acted from the side of the domicile. For more than 50 years sanitarians there have recognized the dangers to health of badly-aired, damp, ill-ventilated dwellings. Now it is known that these places are breeding-grounds for tuberculosis. There are numerous acts of Parliament that aim at the disease breeding-houses. Authorities have the right to inspect houses and fix fines for the violation of the health laws. They have the right to demolish unsanitary buildings, and one act compels municipalities to destroy unwholesome places and provide homes

for those thus without roof-cover. The Torren's Act prevents the construction of a building that will obstruct the air and light of another. The Peabody fund provides houses for 16,000 workmen. Well-regulated workingmen's quarters have been made the healthiest parts of a town. Untidy houses that are never cleaned and in which tubercular patients have lived demonstrate bacilli in 66% of the cases examined. Cornet and Harold Coates have arrived at about the same conclusions in Berlin and Manchester in regard to tubercular infected houses. The only thing to do with some of these places is to destroy them, for there are instances in which in successive families residing in an infected house tuberculosis has developed. An infected house is only too commonly a dirty house. A poor man finds no pleasure in a close, ill-ventilated, dark, and dirty house. He will sleep there, and may eat there, but he will not stay there, and will seek the rum shop. So that "the hovel," says Jules Simon, "is the purveyor for the saloon," "and the saloon," says Brouardel, "is the purveyor for tuberculosis." Thus poverty and alcohol are the tap-roots for this many-branched, wide-spreading evil of tuberculosis.

As long as the laboring man spends an unduly large portion of his earnings in the saloon, the housing problem remains a question of the lowest obtainable living space for himself and family. Unfortunately the greed of landlords lends itself only too readily to the desires of the alcoholic laboring man, and humanity is packed and heaped under roof-cover at the mercy of drink and avarice. There is no way of touching these criminally greedy landlords save by tenement improvement laws and ordinances. Tenants of such houses can be reached through the dispensaries which are able to become prophylactic agents with a wide range of action. These antitubercular dispensaries, by their gradual increase, should aim to bring within their influence all the poor who are afflicted with consumption. In Lille, France, there are 6,000 poor who have tuberculosis, and almost all have some connection with the dispensaries. In places in which these institutions have been established the people flock to them rapidly, and, in many instances, the dispensary, when started in a small way, has speedily been obliged to increase its accommodations. The systematic and effective method for registration, which is a working principle of the dispensary, its opportunities to detect and report quarters and houses which are especially and actively infectious, enables it to collect most valuable data on which subsequent authoritative action can be based. Voluntary registration of phthisis and registration by physicians comes haltingly on and is

observed in but few places in this country and is likely, always, to meet with some opposition, but reliable and complete registration of such cases can be brought about through the dispensaries. Very little can be done hygienically until the disease is located, and municipal authorities will not act until the situation is clearly manifest and action forced by the friends of the people who suffer. The vocation of the patient should be recorded and the dangerous trades discovered; upon the heels of this discovery will follow knowledge of where the danger lurks and how to prevent it. The shops, foundries, mills, factories, and offices that contribute a disproportionate number of cases will be located. Notice of this fact would be only too eagerly accepted and acted on by the intelligent workingman, foreman and clerk. The people who are brought in contact with the dispensary officers can be taught orally, and by simple tracts, the truths concerning tuberculosis and the facts about contagion. This teaching reaches them at a time when they are peculiarly receptive to it, and their desire to get well and to protect their families from contagion renders them obedient and willing to carry out the instructions which they receive. When this obedience becomes vested in clean and healthy habits a very important work has been accomplished. Such patients are easily taught the dangers of sputum and of spitting. The fact that the tubercle bacilli are concealed in the sputum and are carried into their houses and spread over their floors, constituting a menace to their children, who are learning to creep, impresses them forcibly. They will also learn from the dispensary officer the dangers of crowds, crowded cars, and the unwholesomeness of dirty railway stations, streets and public places. Who can adequately estimate the effect on the general cleanliness of a city from a vigorous propaganda of this kind?

The mission of these dispensaries will also include careful inquiry into the conditions affecting the daily life of their patients. Such conditions include the ventilation, aeration, isolation and cubic space of sleeping-rooms, the number of people occupying the house, lodging or room, and other facts of this nature bearing upon the surroundings and manner of living to which their patients are subjected. While collecting this very valuable evidence, the dispensary officer is enabled to give pertinent instruction concerning the importance of air, the danger of close, confined air, the healthfulness of good night air, the danger of winds, draughts, dust, the value of exercise, personal cleanliness, and the necessity of preserving the bodily health at all times. He can also point out the danger of all excesses, the excessive use of

alcohol in particular. Under such teaching the people will gradually learn that the germ of tuberculosis is probably resident in the body at an early age and that what is called consumption is the late development of this germ made possible by the deterioration of the body, because of the unwholesome home, improper food, alcoholic excess or careless exposure. Thus tubercular sanitation will be taught. It is important that the confidence of the patient be obtained and that he learn that his surest hope lies in the early detection of his disease. The patient who has been helped by the dispensary should and does constitute himself an agent to seek out those who cough and are failing in health and directs them to these institutions early in the development of the disease. A successfully managed dispensary will certainly not be lacking in these self-constituted helpers.

The aim of the movement is to vulgarize the present information concerning tuberculosis, to make it the common knowledge of all that come within the pale of the dispensary.

In order to give a precise idea of the varied activities which the dispensary can exercise in the combat against tuberculosis, I will describe some of the French dispensaries which have been in successful operation for several years.

The first dispensary in France was founded by Dr Leon Bonnet in the month of January, 1900. It was started on the *Rue Lazare* and was transferred the following May to 115 *Rue Marcadet*. This first dispensary was the initial impulse for the subsequent great activity in France along the lines of popular dispensary treatment and air-cures for the lower classes. Four new posts grew from this central dispensary. The dispensary Emile Roux at Lille, France, founded in February, 1901, was conceived and organized by Prof Calmette in a spirit of high scientific endeavor and broad recognition of the problem with which it had to deal. This dispensary, in construction, equipment and method, is the model for the dispensaries of the great towns in provincial France and Belgium. A third independent dispensary, the dispensary of *Le Palais de Travail*, was officially inaugurated on November 9, 1902. The support for its foundation and operation comes not only through philanthropic societies but through syndicates and labor unions. This action on the part of organized labor in France ought to be full of significance for us. The simplest expression of the dispensary idea is embodied in the Monmartre dispensary founded by Dr Bonnet. A vacant store contains the whole installation. Its windows are of ground glass to half the height of the pane. It contains a waiting-room, the

walls of which are calcimined in a light color. Benches for the patients and a desk at which an attendant stands and distributes medicine and food, constitute its only furniture. The second room is an inhalation chamber where ozonated air can be administered. A consulting office with dark closet annexed permits the use of the radioscope. This completes the installation which certainly reaches the limit of economic equipment.

The Dispensary Vaugirard has abundant means at its disposal and is most comfortably located in a large and pleasant garden. Its building is of two stories and was constructed with especial view to its needs. On the ground floor is a room for registration of the patients and for the distribution of medicines and food. This room is called the pharmacy. On the second floor are a consulting room, dark closet for use of the radioscope, and closet with steam apparatus for the disinfection of wearing apparel. There is a gymnasium on the third floor for respiratory and other gymnastic exercises. The exterior and interior walls of this building have no angles, and the floors are rendered as nearly as possible germ-proof by the application of germicidal paints.

The Emile Roux dispensary at Lille is located in a house composed of a basement and ground floor. The latter contains a large waiting-room, two consulting-rooms, a dark closet for laryngoscopic examinations, and a laboratory that can, when needed, serve as a third consulting-room. Lastly, there is an office for the Assistant Inspector who has very special functions. In the basement is a large steam heater, which, at low pressure steam, regulates the heat of the building. Annexed to the main building is a laundry. This laundry contains a room for the receiving and soaking of clothes and a second room where the clothes are sterilized, washed and wrung out by a machine with rotary motion. This room opens into a drying-room which opens in turn into a room where the clothes are folded and again distributed to their owners.

The dispensary in the *Palais de Travail* is located in a rectangular pavillion and surrounded by a pleasant garden. Its internal arrangements vary somewhat from the two preceding dispensaries without, however, any essential difference.

The equipment of a dispensary is always exceedingly simple. Its articles of furniture are confined to benches, tables and desks, whose only requisite need be cleanliness and solidity. Fixture spittoons are placed at close intervals and always accompanied by the written warning not to spit anywhere except into

them. At Lille a glass spittoon is used. In the dispensary of the *Palais de Travail* a current of water is arranged to flow constantly through the spittoon so that any discharge is at once carried away. The equipment of instruments for dispensary use can also be exceedingly simple. On the walls of all the rooms mottos and advertisements should be posted in large letters. These mural decorations should preach the doctrine of antituberculosis and antialcoholism in simple, forcible language. "You must not spit on the ground or floor," "You must not sweep with a dry broom," "You must keep away from the saloon," "There is death in alcohol," etc. Such sentences as these are serviceable and effective. In France colored charts and pictures showing the pathologic changes in the internal organs brought about by alcohol and bad living, sometimes supplement printed warnings.

The medical force necessary to operate an antitubercular dispensary consists usually of consulting physicians who are in charge of the auscultation and thorough physical examination of the patient, a specialist for the examination of the larynx and ears (though this is not always possible), and a bacteriologist for the examination of the sputum. The physicians are aided by a caretaker upon whom devolve the care of the establishment, the distribution of medicines and food and the superintendence of the laundry, heating apparatus and the measures for general disinfection.

In Antwerp the dispensary has three physicians whose vocations are entirely different. The first occupies himself exclusively with the social aspect of the case. He finds out the patient's lodging-place, discovers to what class of society he belongs, what his means of existence are, and what is his occupation. The second physician takes entire charge of the clinical side of the case, and the third physician examines the sputa and urine bacteriologically.

In Lille and in Antwerp the work of the medical corps is greatly simplified by the addition of a subofficer who is generally taken from the laboring classes and who goes about into the houses of the poor, finds out what are their urgent necessities, how they are employed, and in what respect their dwellings are deficient from a hygienic standpoint. He also repeats and emphasizes in simple, ordinary language the instructions they have received in the dispensary. Of course these men are successful in their rôle only in proportion to their tact and intelligence.

The methods by which the dispensary operates are based

upon great accuracy and system. The daily history of each patient must be kept in such a manner that it is always ready for reference and for inspection. Each patient must have his clinical and social notes.

At the dispensary of Monmartre and Vaurigard information of various kinds is classified under three heads:

In a register marked "A" are inscribed the name and address of each patient. In register "B" are recorded the manner in which the patient is housed, his calling, his average income, the history of his antecedents, the general diagnosis of his case and the treatment employed. This register is kept daily and is revised every 10 days. Register "C" contains the names and addresses of patients who receive assistance in treatment, food and money. On the occasion of his first visit to the dispensary the patient receives a numbered card on the back of which are written the principal antitubercular teachings.

At Lille the system of registration is infinitely more complex, but is much more easily managed because of the subofficer of whom I have spoken. The disinfection of clothes and wearing apparel constitutes in every dispensary a special service.

That of the Emile Roux dispensary is particularly well managed. A covered metal box which is numbered is given to each patient. In this receptacle he places the soiled clothes belonging to his family. Each article of clothing is marked with the number corresponding to the box before being placed in it. Every week or every fortnight this box is taken to the laundry where it is treated as above described.

The dispensary officers at Antwerp go to the house of the patient and there disinfect clothes and bedding when necessary by means of the autoclave. The dispensary movement has commended itself to all the Latin countries of Europe and America, and has proved itself practical and successful wherever set in motion. The development it has received at the hands of the Portuguese is very remarkable. They have dispensaries and they have also extended the idea to an antitubercular institution which they call institute. The institute is in reality an expansion of the dispensary along educational and scientific lines.

In addition to the consulting-rooms of the dispensary proper, the institute has an amphitheater for medical lectures and special courses of lectures for doctors on the early diagnosis of the disease. It also has a laboratory where bacteriologic work is done, not merely for clinical purposes, but also for exhaustive study of the tubercle bacillus, a station for the disinfection of sputum

receptacles, an establishment for hydrotherapy, and rooms where families whose houses are being disinfected can be accommodated for 24 hours. In classifying the relative importance of antitubercular measures the National Association of Portugal places institutes and dispensaries first, sanatoria for the scrofulous second, and sanatoria for the tubercular third. This classification is based on an economic standard since the 200,000 tubercular patients in Portugal could not find refuge in a thousand sanatoria in anything like a satisfactory measure of time. The Portugese recognized with courage and sense that there would be something of a "mean-time" and that institutions which could be quickly set in operation would be well worth supporting. The dispensary movement seems everywhere to be accompanied with a very lively and earnest educational endeavor. The masses are appealed to by notices and placards attached to walls, by popular articles in the lay press, and by the instruction and counsel of the officers of the dispensary with whom they are brought in daily contact. Labels on match-boxes and other freely circulated articles of commerce remind the eye of the principal truths concerning tuberculosis. The sputum-cup in the hands of the consumptive poor is in itself a constant reminder of how the disease is spread, and in time it will lead them to demand properly disinfected public spittoons.

The treatment in the dispensaries consists mainly in dispensing food and cod-liver oil. A half a pound of meat, 4 oz. of meat juice, a pint of milk, dried vegetables (such as beans and peas), and half a loaf of bread are given three times a week or daily to the registered patient. As those who seek the dispensary are not actively sick with fever, bronchitis and other complications, remedies and medicines are relegated to a second place. At Lille no prescriptions are given and those who require them are sent to the general clinics which should be willing to work in harmony with the antitubercular dispensary. In a dispensary in New York, meat, bread, milk and cod-liver oil emulsion are daily distributed. Two large dispensaries daily assist 150 tubercular patients in Buenos Ayres. These dispensaries give each patient 750 grams of beef or mutton, 2 litres of pasteurized milk, a half kilogram of bread, bed and body linen, sputum cups for the pocket and home. They also take and register the weight of their patients every two weeks and when these patients are too ill to come in person to the dispensary their card sent by a stronger member of the family secures for them the assistance needed in

food, advice and medicine. In cases of fever, hemoptysis, prostration, etc., notice can be sent to the dispensary and one of its officers will give the patient attendance at his house. General prescribing by the officers of the dispensary should not be encouraged. Such a practice would encroach upon the domain of other clinics and cause the dispensary to forfeit its right of cooperation with them. It would also result in over-crowding the dispensaries with patients suffering from other diseases. The general hospitals and ambulatory clinics would be only too glad to be relieved of the tubercular cases they receive at a risk of infecting their rooms and patients and for whom they can do very little beyond affording temporary relief.

The great advantage of the dispensary is its small annual budget. The dispensary at Monmartre expends \$5,000 a year. This includes rent, a janitor, medicines, stores and food for distribution to the amount of \$2,500. With this expenditure 2,157 patients were treated the first year. This would mean that five or six new patients were received daily during the year indicated. About \$5.00 worth of food a month is given to a patient at the commencement of the treatment; this would provide $\frac{1}{2}$ lb. meat, $\frac{1}{2}$ loaf of bread and 1 quart of milk daily. 40 patients, old and new, a day would cost \$2,400 a year. \$600 would provide a small house and a janitor, \$1,000 would do much better. The janitor could live over the dispensary and as the time devoted to patients would be at most three hours a day, he would have ample time to care for the premises. With \$600 for cleaning, disinfectants, sputum cups and unexpected items, one has \$4,000 as the total annual expense.

\$1,000 to \$1,500 would be necessary to purchase furniture, heating apparatus and instruments, put the house in condition and arrange a waiting-room. With three or four such dispensaries a city of 400,000 people would be in good condition to begin a definite, strong movement against tuberculosis.

No nation but Germany can have a complete system of sanatoria, because no nation has the organized means of supporting them. The system in Germany is the outgrowth of a twenty years' accumulation of surplus by the sick benefit and insurance societies, and is absolutely protected by a large capital, which is constantly replenished. Every patient who is received in a sanatorium is paid for by himself or some person or corporation, and the sanatorium is positively assured of income sufficient to its needs. This extraordinary system has no parallel in any nation. The growth of a solid system of sanatoria will have to be on slow

and solid lines. I very strongly recommend a provisional system of tubercular dispensaries pending the interval that must elapse before we can offer adequate sanatorium treatment and isolation to the large numbers of our population affected by tuberculosis. Every tubercular dispensary is a distinct influence toward the full fruition of the consumptive's hope and desire for the complete succor that the sanatorium alone can give him. This leaven of desire, however, will work slowly, and municipalities will in all likelihood reflect public sentiment and only secure for the people adequate sanatorium protection when they are enlightened enough to desire and demand it and willing to contribute toward its support. The dispensary movement can quickly be put in operation. It finds the patient and treats him before he is willing to go to the sanatorium. It is inexpensive and effective, and beyond all these advantages by being among the people its officers can lead or assist in many of the collateral endeavors in the antitubercular movement, *viz.*, registration, education, disinfection, etc.

The American is quick of action and impatient of delay. The energy of the French is likely to appeal to him, especially when he sees that the method is inexpensive and promises results for the workingman almost as beneficent as the more complete and costly treatment which we all, nevertheless, must not cease to hope and to work for. I would have it thoroughly understood that the dispensary is not the end, it is merely one of the means of meeting the emergency of the present while the sanatoria are building. As the dispensary increases in strength and influence the sanatorium will be its outgrowth.

The dispensary may thus while actually working out the question become one of the chief means of educating the public to the point of erecting sanatoria.

To the Members of the Medical Profession

August 1, 1903.

The President of the American Congress on Tuberculosis, to be held in Washington, D. C., April 4th, 5th and 6th, 1905,¹ announces Dr Alfred Meyer, of New York City, consulting physician to the Bedford Sanitarium for Consumptives, chairman of a committee in charge of the section on sanitarium treatment of tuberculosis. It is probable that the climatic, and other methods of treatment will be comprised under the work of this committee.

Very truly yours,

GEORGE BROWN, M. D.,
Sec'y American Congress on Tuberculosis.

Department of Therapeutics

CONDUCTED BY J. B. MCGEE, M. D.

Anal Fissure: S. Lewis, in the *Medical News* for May 30, reports eight cases of anal fissure cured without operation. In its essence the treatment consisted in applying to the fissure and surrounding area a saturated solution of potassium permanganate and using a suppository containing sulphichthyolate of bismuth. The fissure should be exposed, cleansed gently with warm water and the permanganate should be applied on a small swab to the fissure and the whole surrounding area. A smarting occurs which lasts only from two to ten minutes. He uses a suppository sold under the name of *anuso*l which should be employed night and morning. It should be warmed until "slippery" and then passed gently against the anal orifice on the side opposite to the fissure until the sphincter relaxes and the suppository slips in. In most cases it can be inserted by the patient. One suppository is ordered night and morning, the usual dietetic and medicinal treatment for constipation is prescribed and the patient is told to report in two days. Severe cases are told to rest as much as possible in a reclining position, and the worst cases are confined to bed.

Palatability: S. E. Earp, in the *New York Medical Journal* states that a knowledge of the physiologic and therapeutic action of a remedial agent is necessary to obtain good results, but it should be rendered palatable as far as possible. To give castor oil in coffee or milk creates a prejudice against these beverages, and the taste of the oil is still prominent. Whisky and glycerin alone or together may partly answer the purpose, but the "castor oil sandwich" is probably the best method. In the bottom of a glass put a small quantity of glycerin, then the oil, and lastly half an ounce of sherry wine, and take at one draught. This also applies to a single dose of cod-liver oil. To disguise quinin, chocolate, yerba santa and licorice in the form of a heavy syrup may be used, but he prefers one grain of tannic acid to each three grains of quinin in syrup of tolu. The iodid and bromid of potassium and salicylic acid may be given in milk, which also prevents gastric irritation. For chloral hydrate, peppermint water is superior to cinnamon, and equal parts of peppermint water and syrup make the best solution for salicylate of sodium. Unless there is an objection to the intensely sweet taste the syrup of glycyrrhiza answers best for sodium salicylate. An unusually palatable vehicle is a combination of red raspberry and glycerin.

Whooping Cough: T. W. Kilmer, in the *New York and Philadelphia Medical Journal* for June 20, divides the treatment of whooping cough into three kinds, namely, (1) general, (2)

medicinal, and (3) mechanical. The general treatment includes open air, good ventilation, and attention to the diet and bowels. Of the medicinal means the drugs which have proved with him most efficacious are antipyrin in combination with sodium bromid and quinin. He gives to a child two years of age, at a single dose, sodium bromid, three grains, antipyrin, one grain, syrup of ipecac, four minims, and water to make one dram. This is given every two hours for three or four days. The child is then given three grains of quinin sulphate every three hours for another three or four days, and is then put back on the antipyrin mixture. Under the head of mechanical treatment, he states that for a prolonged spasm of the glottis, intubation is indicated. The agent to which he draws especial attention is the application of an elastic belt to the abdomen, or thorax, or both, as occasion requires. This elastic abdominal belt is used to control the vomiting seen especially in nurslings. The infant in some cases would die without its use on account of the inanition caused by the incessant vomiting. He has seen the most aggravated cases of vomiting in nurslings stop immediately upon the application of the abdominal belt. A stockinette band is placed upon the baby extending from the axillas to the pubes and fitting the body snugly. Two shoulder straps are used to prevent the band from slipping down. Upon this stockinette band a single width of elastic bandage is sewn extending entirely around the body and covering the abdomen. This bandage is sewed on when very slightly on the stretch.

Carbolic Acid: E. Q. Thornton, in *Progressive Medicine*, states that in cases of carbolic acid poisoning as a chemical antidote and eliminant he regards the soluble sulphates as superior to all others. He still holds to the opinion that alcohol is neither a chemical antidote nor physiologic antagonist when the acid is taken internally. He notes that Ferreby has employed caffenin as a physiologic antagonist, when the acid is taken internally.

Erythroploeum: Erythroploeum, the bark of an African tree, has been investigated clinically recently by R. W. Wilcox and he reports his results in *American Medicine* for June 27. Although the bark has been known to European medicine since 1876 its only preparation is a 10% tincture adopted by the British Pharmaceutical conference of which the dose is 5 to 10 minims. It resembles digitalis in its action, and the mode of action may be summed up as that of a muscle poison acting upon the heart earlier because it receives a larger quantity of poisoned blood. Upon the vagus its action resembles digitalis, and it is a vasoconstrictor by acting on the vessels themselves, the vasomotor nerves or on some vasomotor center not contained in the medulla, but probably in or around the vessels themselves. The dose Wilcox employed was generally 10 drops in a wine-glass of water after each meal.

The field of use for erythroploeum would seem to be limited to the heart and blood-vessels when cardiac disease is or is not accompanied by dropsy. Its ability to slow the heart is greater than that of digitalis, but it is more decidedly a gastric irritant. Its vasoconstrictor properties are practically those of digitalis and ergot combined. It is rather less cumulative than is digitalis, using this term in the same sense that it is applied to digitalis. The indications for the use of the remedy are those for digitalis, namely, a rapid low tension pulse with venous congestion. As to constancy of effect in slowing the heart, strengthening the pulse, and promoting diuresis, digitalis is somewhat more reliable. Its use should be confined then to those cases of fairly competent heart with slow vascular tension in which it will show its effects more markedly and rapidly, and to those cases in which digitalis has lost its usefulness, or has utterly failed.

Santonin: The *Medical Council* for January quotes Drs Combarrnal and DeChabert (*Klinische Therap. Wochenschrift*) as to their satisfactory experience in the relief of the pains of locomotor ataxia by giving a single three-grain dose of santonin once daily, the lancinating pains being promptly relieved and future attacks prevented or favorably modified. Sometimes smaller doses are sufficient, but there is danger of stomach disagreement and of ensuing gastric crises. The drug should never be given after vision becomes yellow, though it may be readministered when this symptom disappears.

Epicarin: In the *American Journal of the Medical Sciences* for June Drs A. VanHarlingen and H. K. Dillard, Jr., conclude that (1) in epicarin we have an important addition to the means of combating ring-worm of the scalp. Used preferably in the form of a tincture of 10% to 20% strength, and after epilation, it appears to act more rapidly than any of the remedies heretofore employed in restoring the hairs to a normal condition. (2) In ring-worm of the body, the tincture seems to be irritating and slow in action. The ointment acts better, but it is not equal to the ammoniated mercury ointment, nor to most of the remedies ordinarily employed. (3) In favus the result of the use of epicarin was such as to encourage trial. (4) In scabies their experience is that epicarin in the form of the tincture and simple ointment is apt to prove very irritating and is by no means equal to the sulphur and naphthol, nor to the other ointments ordinarily employed. Epicarin is said to combine the properties of creosote and naphthol.

Zinc Sulphocarbolate: In the *Alkaloidal Clinic* for July, W. F. Waugh gives his routine treatment in cholera infantum. The bowels should be cleaned out with castor oil, calomel, mer-

cury and chalk, aromatic rhubarb lavage, or colonic flushing, as seems best in each case. Then follow this treatment with sulphocarbolate of zinc from 1-6 to 2 grains every hour. He has given the latter dose hundreds of times to children in the second summer without irritation. Some take it in solution, others in granule or tablet form, but if there is decided irritability of the stomach it is best to give it in powder with bismuth and pepsin. Both the latter sedate gastric irritability, but do not cure cholera infantum without the zinc. The zinc should be begun whenever an unhealthy stool is passed, and continued until the discharges have lost all fetor. He states that the unvarying experience of 25 years backs up his views as to the value of zinc sulphocarbolate in this disease. He also states in *Merck's Archives* concerning the same drug that other antiseptics do good, but no such success has followed their administration as in the case of the sulphocarbolate. He does not know how it acts, but believes it to be something more than a simple antiseptic and advises those who use it to be sure that it is pure, use it wisely, give enough to do the work, and it will not disappoint the prescriber.

Infantile Diarrhea: In *Medicine* for July, James W. Vander Slice notes five indications in the treatment of summer diarrheas: First, stop all food; second, remove the cause; third, rest to the affected part; fourth, allay thirst by the administration of cold water frequently in small amounts; fifth, keep the surface temperature as nearly normal as possible. In cases in which the skin is cold apply artificial heat, to a dry skin apply cool sponging. He stops feeding for 24 hours, catering to the mother's feelings by giving the child cold rice-water, or barley-water in teaspoonful doses every half-hour and every hour. The initial medicinal treatment is one-tenth grain of calomel every hour for six doses followed by a dram of castor oil. This should be enough to practically empty the stomach and small intestines. Plain warm water may be employed in colonic flushing; except in children with rapid loss of weight and great prostration when the normal salt solution is used. The initial treatment is followed by five or ten grain doses of bismuth subnitrate given every two hours with a dram dose of aromatic syrup of rhubarb each morning. In restoring the milk diet in artificially fed babies he usually begins with one part cream, one part lime water and three parts of a 5% sugar of milk solution. The intestinal antiseptics of the coal-tar series he believes to be too irritating to be of any use. The one exception he makes is benzosol given to older infants in two-grain doses every four hours.

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EDITORIAL

A Movement Toward Elevating the Scientific-Medical Work in our State Institutions

It is now generally conceded that the State owes a duty to the public supporting its benevolent medical institutions more than that comprehended in the mere maintenance of their inmates. There are obligations of a purely medical nature to be fulfilled, and this function carries with it the necessity of better service along all lines of medical specialism and especially of a productive scientific study of the material abounding so plentifully in these hospitals and now, alas, almost entirely wasted! It means that the State should provide the facilities whereby clinical and pathologic researches may be prosecuted in the rich and varied field afforded by these great medical establishments.

These propositions are not new. They have been formulated and forcibly presented from time to time by various thoughtful members of the medical profession in and out of the State institutions. They have met with encouragement from the lay representatives of the public in several of our States as shown by the establishment of a central station for teaching and

research in connection with the New York State Hospitals (The Pathological Institute of the New York State Hospitals), and the foundation of a similar one in Michigan in connection with the State University and the Michigan State Hospitals. Besides these two central laboratories a number of individual institutions in the east have established good local laboratories and placed them in the hands of competent directors. The impetus is tending westward, and Ohio is now actively awakening to its inspiration.

Two years ago the Ohio State Medical Society appointed a Committee on State Pathological Institute which, owing to several unpropitious circumstances, never met. At the Dayton meeting of the reorganized Ohio State Medical Association the project was revived by Ohlmacher's paper (The Laboratory Movement in Ohio's State Hospitals, CLEVELAND MEDICAL JOURNAL, July, 1903) and an enthusiastic response was accorded it. The Association adopted resolutions commending the project, and a Committee on State Pathological Institute was appointed consisting of the following members: E. J. Wilson, Columbus, Chairman; A. P. Ohlmacher, Gallipolis; A. B. Howard, Cleveland; Julius Jacobson, Toledo; F. W. Langdon, Cincinnati. It is the purpose of this Committee, whose plans are maturing, to institute an active campaign through the avenues afforded by the now thoroughly organized State Association, and by the aid of the component County Societies to bring the matter to the political representatives of the public, all of which indicates that Ohio is at last energetically at work on a scheme whose scientific and humanitarian possibilities are so great as to invite the active cooperation of every earnest physician in the State.

In this issue of the JOURNAL we publish the brief address by Ohlmacher before the meeting for organization of the Association of Assistant Physicians of the Ohio State Hospitals, which contains some additional arguments in favor of the improvement of the medical work in these establishments, and also favors the plan of a central teaching and research institution in connection with the State's Hospitals. The arguments in this address, particularly those following the numerical showing of the material, corps of physicians, and pecuniary resources of this vast medical work in which the State is now engaged, are fraught with significance to every good citizen of Ohio, be he physician or layman.

Care Necessary in Dealing with Beggars and Unknown Borrowers

The medical profession has recently been made a target of by men with "hard luck" stories. This may be on account of the present unpromising appearance of the stock market and of the unfortunate experiences of some doctors in the oil business. With two avenues of approach temporarily blocked the "boomers" have been displaced by hard-up doctors, medical students and doctors of philosophy. All physicians are glad to help a professional brother who is in trouble, but when the suppliant comes with suspicious tale and air, experience demonstrates the prudence of withholding charity. Locally there have lately been some recent solicitors for professional charity whose stories would not bear investigation. Some physicians of the State recently have received a printed circular from a Texas physician who asks alms. The appeal originally was published in the *Surgical Clinic* but its author says the response "was not sufficient to accomplish but little benefit" (*sic!*) Those who contribute are assured a financial return from the hands of "our great Creator!" After reprinting an alleged endorsement by Dr W. C. Abbott, of Chicago, the circular closes with what purports to be a statement by the postmaster of the place at which the unfortunate resides. On the back of the circular before us, however, is a penciled statement signed in the name of the suppliant which asks that the money be forwarded to another post-office, because no post-office exists in the place whose alleged postmaster testified as to the truth of the circular's statements. Evidently no prudent physician will respond to an appeal whose character bears such evidence of uncertainty.

The Duty of the Property Owners to the Public

If the public at large fails to appreciate the real danger from tuberculosis which threatens us as a race, it can hardly be said, in justice to the medical profession, to be our fault.

For a decade and more the popular scientific journals, as well as the medical journals, and the best medical minds throughout the world, have done their utmost to spread broadcast knowledge of the right sort, with the hope that it might take root in the minds of the laity and find expression in a proper appreciation of our duty toward an innocent public.

We know that the labor has not been in vain; but, unfortu-

nately, we know too, that in certain flagrant instances a sordid individual has been found utterly impervious to the teachings of hygienic specialists and medical authority.

An instance of this sort has recently come to our notice, and we ask if there is not some power by which our Health Officer, or our Health Board, can prevent just such violations of the fundamental laws of hygiene.

Not many weeks since, a death from tuberculosis occurred in a family resident in one of our many apartment houses. Following this, the apartment was given up, and has subsequently been broadly advertised as for rent, without any further disinfection, or even cleaning, than the new tenant, ignorant of the preceding history, may care to bestow upon his germ-ridden lease.

It is, in our judgment, criminal that such a situation should be possible, and it is to be hoped that some means can be devised to protect the innocent against dangers of this sort, which are real and not imaginary.

Sloyd Teaching at the Ohio Hospital for Epileptics

During the past eight months a Sloyd school has been regularly maintained at the Ohio Hospital for Epileptics in close affiliation with the general school work, and the first report, recently submitted to the hospital trustees, is most interesting as showing what can be accomplished along this line.

The classes are made up of both the younger and older boys, those showing the best mental and physical condition being chosen, and it is a pleasure to note that the interest and attendance of these classes compares favorably with that of normal school children of the same ages.

The work includes the use of the rip and cross-cut saws, the plane, try-square and file; and such articles as plant stands, clothes racks, pen racks, towel rollers, etc., were successfully turned out by the boys themselves.

The direct results accomplished were the creation of a genuine interest in the work, and a training in the habits of order, exactness, cleanliness and neatness; and more important still, the fact that periods of two weeks and more at a time have passed without convulsions occurring in the school room. Surely this is a long step forward in the right direction, and it is to be hoped that the work may be continued in our own hospital and may be taken up generally in similar institutions elsewhere.

The Tuberculosis Dispensary

To those who come in contact with the multitudes which throng to our public clinics and out-door relief stations no additional argument is necessary to demonstrate the greater protection afforded by a separation of the tubercular from the nontubercular applicants; and there can be, moreover, no question as to the greater efficacy of control and the greater thoroughness of treatment afforded by the establishment of separate dispensaries for the proper treatment and supervision of all cases of tuberculosis.

Under the present conditions, as existing for instance in this city, the patient suffering from incipient or advanced tuberculosis applies for relief at any one of our public clinics, and is seen, examined, and prescribed for along with a large number of applicants wholly free from tuberculosis. In the face of the large numbers applying for treatment and the limited time which is available for the consultation, those individuals, the victims of tuberculosis and themselves foci for a widespread dissemination of this scourge, are, only too often, we fear, not made to appreciate the vital necessity for the scrupulous care which must be taken for the protection of others.

That much can be accomplished by a special system of registration of the tubercular patients in the general dispensary must be admitted, but even this measure cannot hope to accomplish the results possible under a system of detached tubercular dispensaries. We desire, especially, to call attention to the paper published in this issue of the JOURNAL which deals more in detail with this important question and contains abundant evidence of what has been accomplished in this direction in Europe.

The appalling number of patients one meets almost daily in our public clinics, who are the victims of early tuberculosis, is certainly large enough to justify the establishment of such dispensaries for the treatment of tubercular patients alone.

The Influence of Dwellings on the Spread of Tuberculosis

In a study of the distribution of tuberculosis in Cleveland—CLEVELAND MEDICAL JOURNAL, Feb., 1903—Osborn and Herrick showed that certain districts, notably those in the old portion of the city and those in or near manufacturing districts, show a mortality from tuberculosis much above that from other diseases.

The definite evidence of house-infection in Cleveland was not abundant, largely for the reason, we believe, on account of the lack of careful statistical record of the cases occurring in the city

during the past two decades. That, however, house-infection does play a very important part in the spread of and development of tuberculosis we know from the work of Biggs in New York and of Coates in Manchester.

Since the publication of these observers' work, no such exhaustive study has appeared, as that recently published by Romberg and Haidecke in the *Deut. Archiv. Klin. Med.*, Bd. 76, No. 309. These authors have made an elaborate study of the prevalence of tuberculosis in the small town of Marburg, covering a period of eleven and a half years, and have been able to present some unusually interesting figures.

During the period covered by this investigation the distribution of tuberculosis among the individuals occupying 116 houses was carefully analyzed in reference to possible house-infections. These houses sheltered in all 1,693 persons of whom 1,431 were treated at the public clinics, and in 262 of this number, or 18.3%, tuberculosis was present at one time or another. During this period of eleven and a half years there were but 20 houses, out of the 116 included in this study, which remained wholly free from tuberculosis.

The most striking evidence, however, of the part house-infection may play in the spread of tuberculosis is brought out by the figures of the tubercular infected houses, for in but 2.6% of the infected dwellings there occurred 34% of the total number of cases of tuberculosis in the town.

Studies such as these stimulate the imagination when we contemplate the dangers which must prevail in every city, as a result of the crowding together in ill-ventilated shops, factories, etc., of the daily workers and residents of these infected houses.

Light in High Places

It is no part of our intention or right to enter the field of politics, and with this brief but definite disclaimer may we be allowed to express our judgment as to the need for certain very important improvements or reforms far more urgently demanded by the city just now than the much-discussed plans for illumination. It is of course true in hygiene as in every other branch of medical science that one must have *light*, though it matters not so much to the public health what the source of this light may be, so long as with it we may get an abundance of daylight as well as sunlight.

Among a few of the things much needed, it seems to us, to

make our municipality healthier and fairer should come first a *pure water supply*. We have in a different way repeated this opinion, until finally, like our city water itself, it is no longer fresh.

Why should it be necessary that we, as heavily-taxed citizens, must pay the additional burden of *buying* our drinking water; which we do with a blind trust in Providence, for though it looks pure, how little the public knows of its source. It may be months and it may be years before the municipality can see its way to give us water fit to drink, but until that time we shall rejoice in the well-worn theme for the opportunity to give *light* to those in high places.

Medicine an Exact Science

It is extremely interesting to note the discussion by any gathering of medical men upon almost any medical topic. Except in regard to certain well-defined truths that have been demonstrated beyond the shadow of a doubt, the greatest differences of opinion as to the procedures necessary in a given case may be expressed, and very often these happen to be diametrically opposed to each other; a fact which clearly illustrates that medicine is far from being an exact science and furnishes a pretext for the scoff of the layman that "even the doctors cannot agree."

An example of this may be found in the discussion at the recent meeting of the American Gynecological Society held in Washington, upon the advisability of removing the uterus in cases in which both tubes and ovaries have to be taken out. The question is not a new one, on the contrary it has proved a fruitful source of discussion for years. Widely differing views were expressed by the members of the society, representative men in this specialty. Fortunately good results may be obtained by either procedure, and even if the matter could be decided upon for the present, it is altogether probable that before long the other method might be considered preferable. This is the history of medical progress, and therein lies one of its charms that it is continually advancing and presenting new aspects.

Newspaper Ethics

An illustration of the well-known and lamented fact that almost all newspapers refuse to expose medical frauds of any kind, a rather recent occurrence in a not-far-distant city shows the length to which a newspaper will go in its quest of gold. A certain speculating concern was on its last legs and, in an effort

to bolster up a lost game, it became involved in a business transaction which, if made public, would then and there have put a quietus on its career. Each one of four papers was offered \$1,000 to publish this transaction as an item of news. Although such publication would have saved many a small investor all his hard-won savings, the papers one and all refused, because the speculating firm "was so good an advertiser." And so for a little more gold the papers go on publishing advertisements that directly incite to the crimes of abortion, infanticide, and murder, and others that as directly promote drunkenness and the habits of taking morphin, cocain, and other deleterious drugs. The "guardians of public morality" rarely forego a few dollars to protect innocent ones from contracting vicious, debasing and life-ruining habits. In public affairs many papers show a fine spirit, but so few forego the little but damning sins that usually pass unseen though adding so greatly to the sum of human misery. A great reformation in the controlling forces of modern journalism is radically necessary.

A few clear-headed and high-minded managing editors in eastern cities have taken this step of excluding objectionable advertisements, but the example has not seemed to be pleasing to the great majority of their fellows. In justice it must be said, however, that many of the sinners are such through sheer, though inexcusable, ignorance. No one about a newspaper office knows anything about medical matters, and the harm done by such advertisements is not realized.

Medicine as a "Business"

Corporations have been formed and have begun business that, for a stipulated annual sum, guarantee to an individual or to a family medical attendance, nursing, and hospital care. Good names appear on the prospectuses. The bait is alluring to those asked to go on the "staff." Clear thinking seems to be necessary to catch the inner meaning of these facts.

Of course the only pretext on which stock could be disposed of to men engaged in active pursuits is that money is to be made. Actually these corporations are selling health insurance, and at a very cheap rate. How then is "money" to be made? There is only one way in which these enterprises can be made to "pay," and that is by taking from the medical profession every cent that goes into the pockets of the stockholders. Every workman who buys one of these "certificates" severs his connection with his

family physician. Every corporation which buys "certificates" for its workmen, and thereby certainly and virtually *insures* itself against accident claims, is making an organized attack upon the whole medical profession. We have watched the "battle of the clubs" abroad; we may now participate in similar fray at home in the endeavor to save our bread and butter. Every physician who loses a patient or a family to these corporations will necessarily look upon the "physician" who lends himself to such an enterprise as a professional pirate. Members of the "staff" of these concerns can only expect ostracism at the hands of their fellow-practitioners who feel that they have been robbed of that which had, as it were, really belonged to them. For these reasons it is very evident that capable and high-minded physicians will not take service with these corporations, and that many who lack much of these principles will not dare to face the censure that will surely fall on their heads. Especially will this be true when it is remembered that the history of these concerns shows that no one of them lasts very long. After the crash the poor deluded doctors who allowed their names to be used in this connection have found themselves in a sad pickle.

In Ohio it seems quite certain that these corporations are operating in violation of the insurance law of the State. The JOURNAL is advised that the proper officers have asked the legal authorities for an opinion upon this point. In Ohio also legal matters that interest the medical profession do not move rapidly, but some day we may expect a ruling, or a refusal to make one. The medical profession of Ohio is now organized as it never was before. After it has for the first time declared its undoubted power, some matters will mature more expeditiously.

Sudden Death in the Water

The tragic death of two of Cleveland's prominent young medical men, Drs E. H. Lueke and A. Cudell, under conditions ordinarily termed "drowning," suggests attention to the subject of sudden death in the water and to a phase but little discussed in America. The circumstances attending the sad calamity above mentioned can only be conjectured from imperfect circumstantial evidence, but enough is known to lead to the conclusion that one of these apparently healthy young men, and a good swimmer, was seized with so-called "cramps" after plunging into the lake, and that his comrade lost his life trying to rescue him.

We are accustomed to speak of "cramps" as a predisposing

factor in causing that form of drowning in which competent swimmers not uncommonly lose their lives. As a matter of fact, we know little of the clinical pathology of these dreaded "cramps" and less of their etiology. On this account the observations made by Nordmann (*Ueber die Beziehung der Thymusdrüse zu plötzlichen Todesfällen im Wasser. Correspondenzbl. f. Schweizer Aerzte*, Bd. XIX, No. 7, 1894) are worthy of review, since this author attempts to account for some, at least, of these mysterious cases on the ground that the victims were subjects of *status lymphaticus*, that peculiar constitutional disorder in which the vital resistance is lowered and in which sudden death from otherwise trivial causes occurs. His viewpoint will probably best be illustrated by citing two of Nordmann's cases:

Nordmann credits these cases to von Recklinghausen. The first concerns a 20-year-old mechanic who, while swimming, uttered a sharp cry and sank beneath the surface, and, though quickly removed from the water, was dead. On postmortem examination his body was found to be lean; the organs were generally congested; the lymphatic glands in the neck, axilla, and groin were enlarged, along with the spleen. The follicles in the nose, glottis, and tongue were very prominent. The thymus was persistent and measured 10x6x1 cm.

In the other case, a man 28 years of age suddenly sank while swimming beside some companions. He was at once removed from the water, but death had already taken place. The body was well-nourished. The noticeable features of the section were the enlarged tonsils, lymph-glands, and spleen; and the hyperplastic follicles of the tongue, spleen, and intestines (Peyer's patches). The heart was flaccid, and the aorta measured but 4 cm. at its origin. The thyroid was enlarged. The persistent thymus was 10x8x1 cm. in size.

Still another of Nordmann's cases shows a peculiar fatality following immersion in the water, and what might be looked upon as a case of "cramps" following bathing. It is cited as follows:

A soldier in good physical condition, 26 years of age, went swimming on a warm August afternoon with a number of comrades. All precautions were taken as to the proper temperature of the water. He entered the water slowly, swam about for a while and returned to the shore. After emerging, he complained of chilliness, suddenly stiffened his extremities, turned his eyes upward and fell to the ground. He was assisted to a sitting posture, where Nordmann found him breathless, pulseless, and with a deeply cyanosed face. Artificial respiration and stimula-

tion were of no avail. On autopsy the body was found to be well formed, in good nutrition, with pronounced rigor, and cyanosis of the face. The brain was merely congested. The thoracic organs were normal. Bronchial glands were somewhat enlarged, gray-black, and a little firmer than usual. A thymus gland, larger than a fist, lay in the anterior mediastinum, dark red in color, with follicles plainly visible. The tonsils were enlarged, as were also the lymph-glands, and the follicles of the tongue and spleen. The thyroid was symmetrically enlarged.

From the standpoint of pathologic anatomy all these cases were examples of *status lymphaticus*, and Nordmann, von Recklinghausen, Paltauf, and others ascribe these sudden deaths to the diminished vital resistance and tendency to fatal syncope and convulsions ("cramps") incidental to this dyscrasia. It appears that victims of lymphatism possess an unstable nervous equilibrium in which various forms of reflex irritation, usually readily borne, act by producing convulsions or even abruptly fatal attacks of respiratory or cardiac arrest.

The work just cited is sufficiently suggestive to be kept in mind in event of tragedies like that involving the two Cleveland physicians above mentioned, and both for scientific and medico-legal purposes, the desirability of careful autopsies with the possibility of *status lymphaticus* in view seems unquestionable.

An Unpleasant Case

In June the Ohio State Board of Medical Registration and Examination received a complaint that one C. J. Stevenson was violating the law by practicing medicine in McConnellsville, Morgan County, without the formality of obtaining a license. An enclosed advertisement from a daily paper showed clearly that the law was being violated. The attorney of the Board went to McConnellsville, and made out a case against the offender sufficiently clear to warrant a Justice in binding him over to the grand jury. Prior to the hearing, the following certificate was handed to the justice, an evident but somewhat daring attempt to influence his judgment:

"McConnellsville, Ohio. July 16, 1903.

"To whom it may concern, We, the undersigned having heard that an effort through State Medical Board, is about institute some kind of proceedings against C. J. Stevenson, a sojourner of this place, a gentlemen in every sense of the word and action, since his stay in this community, for practicing the 'Masseur Treatment,' in old chronic cases, and believing it

wrong, do hereby remonstrate against such action, looking upon his treatment as a help, instead of injury to the physicians here.

(Signed)

J. M. PEDICORD, M. D.
J. E. BROWN, M. D.
J. F. LEEPER, M. D.
W. K. KELLEY, M. D.
J. B. NAYLOR, M. D.
H. L. TRUE, M. D."

In order to secure an impartial view of the case the JOURNAL wrote each one of these petitioners asking, before publication, whether he really signed this petition. Some weeks have elapsed since those letters were written, none have been returned, one was turned over to the Justice for reply, and one was answered by an admission of authenticity and a plea for the defendant.

In order to make complete record of the documents in this case, it is probably desirable to publish the letter from the one physician who replied. It is as follows:

"McConnelsville, O., July 29th, 1903.

P. Maxwell Foshay,

Ed. CLEVELAND MD. JOURNAL,
Cleveland, O.

"Dear Sir: In answer to yours of the 27th inst will say. Yes I signed it and I think the signatures of the other physicians are genuine.

"Would you like an explanation? I will try to give it.

"'Dr.' Stevenson struck our town early in the spring. He came from Marietta. Had many letters of recommendation from that place. Claimed he was not molested there. In his method of dealing with the public he was different from the usual traveling doctor, in that he strove to keep up a friendly intercourse with the profession. He invited me in to see him treat some patients and I went. As the treatment consisted entirely of rubbing (no medicine being given) I could see no objection to it, especially as all whom he had treated so far as I know were satisfied, claiming they had got the worth of their money.

"Dr Alexander, an aged physician, formerly president of the Morgan County Medical Society, a practitioner in this place for more than 35 years, got him to treat his wife, who was in very feeble condition. He gave her about 30 treatments. It was while he was treating this case that that protest was signed. I have no doubt Dr Alexander would have signed it had it been presented to him, for he told me his wife was benefitted.

"I told Stephenson he had no right to take the name doctor without certificate of State Board, and he immediately dropped it from his sign and from his advertisements. I have no doubt he was under the impression that he could rub patients, without

violating the law. I believe simply a suggestion from the State Board, that his practice was illegal, would have stopped him at any time (without prosecution).

"I see no good reason for this prosecution unless the Board wants to make an example of some one. I have reason to believe this matter has been presented to the State Board in a wrong light, by some doctors who are not above reproach themselves, and the sooner the Board drops the prosecution, the more it will be to their credit and to the credit of the profession in general.

"Very truly yours,

"H. L. TRUE, M. D."

The letter from the Justice is herewith published verbatim, in the effort to be perfectly fair to all concerned.

OFFICE OF MAYOR,
C. B. COULSON.

Malta, O., August 3, 1903.

The CLEVELAND MEDICAL JOURNAL,
Cleveland, Ohio.

"Gentlemen: Dr J. B. Naylor of this place handed me a letter addressed to him in which was stated that one of your correspondents had reported that one Mr C. J. Stevenson of this place had been found guilty of violating the medical practice act of Ohio.

"In regard to same will say that *who* ever reported the above did Mr Stevenson a great injustice and *should be retracted* at once. While it is true that a complaint was filed before me against Mr Stevenson for violation of said act, and he brought before me on said complaint, pleaded not guilty and was bound over to the Court of Common Pleas of this county. The fact that a complaint was made and that he, Stevenson, was bound over to court should not be taken as proof of his guilt and should not be so considered by any one as such proof and he should be regarded as innocent until he has had a full and fair consideration of all the evidence produced to prove a conviction before a just and competent jury. If this matter has been published it has done Mr Stevenson a great injustice and should be retraced at once. Mr Stevenson has been among us for some time and seems to be a gentleman in all respects. I hope you will give this matter a fair and just consideration so that no injustice may be done Mr Stevenson. I am yours, etc.,

(Signed)

"C. B. COULSON, J. P."

Our correspondent assures us that many of the physicians of the locality uphold the Board in its efforts to enforce the law. It is a great pity that any physician could be found willing to plead for a violator of the law whose advertisements in the daily papers were as objectionable as certainly were those of the defendant.

After reading the above, no physician will be surprised to

learn that Morgan County has not a county medical society. It is evident that an organization is urgently needed, and it is to be hoped that there may be found enough physicians who are interested in the matter to secure the formation of one at an early day.

When the State Board is doing its best to uphold the law and to keep out of practice the untrained and the dishonest, it should receive from all physicians every possible help. In the present case it is not possible to believe that the physicians who signed this remonstrance really appreciated what they were doing.

In spite of their failure to reply to the JOURNAL's courteous request for information upon this point, it must be believed that they acted under some as-yet-unexplained misapprehension.

Fame

A prominent citizen of Cleveland recently died and the newspapers published a long list of the enterprises in which he had at one time or another been interested. Among the rest there occurred the name of a very disagreeable patent-medicine concern that has its headquarters in this city. Wide publication of the fact that a respected citizen was willing, for the promise of a little filthy dishonest lucre, to lend his name to the exploitation of an enterprise that aims to prey upon the ignorant credulity of suffering human beings must have been unspeakably comforting to the relatives of the deceased.

Eddyism

Oliver W. Marble, a "Christian Scientist" of Sandusky, on August 17 was found guilty of practicing medicine without a license. Some months ago he *treated* fifteen year old Harold Lockwood, who had typhoid. Daily prayers at \$1.00 per prayer, however, failed to save the boy's life, and another innocent life, likely enough, was slaughtered on the altar of superstitious ignorance. It is good to know that a "jury of his peers" found a verdict of "guilty" against the culprit. The case, it is said, will be appealed. It is to be hoped that higher courts will find no loophole for escape. The penalty, even after conviction, is very light as compared to the offense.

At a meeting of State educational institutions and medical men, held in Columbus, July 30, plans were made for advancing scientific research along the line of preventing the diseases which are filling the hospitals of the State.

[SPECIALLY CONTRIBUTED]

Overheard at the Osteopathic Convention

First O.: "Glad to see you, doctor. Where are you located now?"

Second O.: "Pleased to meet you again, doctor. I am now located in St. Louis. Where are you now?"

First O.: "I am at present in Chicago."

Third O.: "Hello, doctor! How are you? When you pass through Kalamazoo stop off and give me a call."

Fourth O. (feminine): "How do you do, doctor? We miss you very much in Columbus."

Fifth O.: "Why, doctor, how are you? They tell me you have moved from Kirksville to Joplin?"

Sixth O.: "Hello, doctor, when do you expect to return to Cincinnati?"

Seventh O.: "I don't know, doctor. I have just settled in Chillicothe."

Eighth O.: "Hello, John! How are you? Awfully glad to see you. Where are you located now?"

Here the birds of passage resumed their migrations and the remainder of the conversation was lost to history.

[SPECIAL CONTRIBUTION]

A Seriocomic "Hospitality"

SCENE: A HOSPITAL.

Enter the traveling representative of a pharmaceutical manufacturing firm.

T. R. (to clerk): "May I see the hospital pharmacist?"

Clerk: "Yes."

Enter the Superintendent of the Hospital.

S.: "Who do you wish to see?"

T. R.: "The pharmacist."

S.: "What do you wish to see him for?"

T. R. (handing S. a card): "In regard to our product."

S.: "I am the one to see."

T. R.: "Very well."

S.: "We do not wish to buy anything."

T. R.: "I am not here to sell but to leave samples. Who are your resident physicians?"

S.: "I don't know that that's any of your business."

T. R.: "I merely wished to present each with a sample."

S.: "It's time for you to get out of here." (Takes T. R. roughly by the collar and pushes him violently out of the front door and down on the portico steps.)

Book Reviews

American Edition of Nothnagel's 'Practice. I. Diseases of the Stomach, by Dr F. Riegel, of Giessen. Edited, with additions, by Charles G. Stockton, M. D., Professor of Medicine in the University of Buffalo. Octavo, 835 pages, illustrated, including six full-page plates, Philadelphia, New York, London: W. B. Saunders & Company. 1903. (Cloth, \$5.00 net; half morocco, \$6.00 net.)

II. Diseases of the Pancreas, Suprarenal Capsules, and Liver. By Drs L. Oser and E. Neusser, of Vienna; and Drs H. Quincke and G. Hoppe-Seyler, of Kiel. Edited, with additions, by Frederick A. Packard, M. D., late Physician to the Pennsylvania and to the Children's Hospitals, Philadelphia; and Reginald H. Fitz, M. D., Hersey Professor of the Theory and Practice of Physic, Harvard University Medical School, Boston. Octavo, 918 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Company. 1903. (Cloth, \$5.00 net; half morocco, \$6.00 net.)

I. Among the most valuable works which have appeared during the past decade upon the diseases of the stomach, none has surpassed in clearness of description or in its exhaustive thoroughness Prof. Riegel's classic work so well known to the German readers of Nothnagel's system. The translation and editorial revision of the text for Saunder's American edition has fortunately fallen into the hands of a sympathetic and appreciative admirer of the original monograph, and every impartial critic must concede that Dr Stockton has met with a larger measure of success in preparing this work for English readers than always falls to the lot of translator or editor.

The great value of the original work has been enhanced by additions to the text wherever they have seemed vital, including all the most recent contributions to the subject having any real merit. The chapter devoted to the methods of examination contains a systematic and careful description of the various methods of procedure. The surgical treatment of the diseases affecting the stomach is considered at length and represents the present-day teaching of the best men on this subject. We are confident that this work will meet with the same favorable reception that has been accorded the earlier volumes of this valuable series.

II. Any extensive review of this work seems unnecessary, the mere fact that the original monographs of Oser and Neusser have been edited for American readers by Fitz being in itself evidence enough of the standard of that part of this volume devoted to the pancreas and suprarenal capsules; while the editorial review of that part of the work devoted to the liver fell happily among the last labors of the gifted Packard, whose untimely death was such a loss to American medicine.

All the recent work of Körte, Opie, Abel, Crawford and others has been freely made use of and incorporated in the text in such a way that the value of the original monographs is much enhanced.

In a word, this work represents the sum of our knowledge at the present time of the physiology and morbid anatomy of the pancreas, adrenal capsules and liver. The bibliography is most complete, and a free index adds much to the facility of reference.

In its mechanical makeup we note a change in the heavy type as well as in the paper from that used in the preceding volumes of this series, a change which in our judgment improves the general appearance of the volume. This work is one which should be in the hands of every physician and student of medicine.

Practice of Medicine. By William Gilman Thompson. Second Edition. Published by Lea Brothers & Co., New York and Philadelphia.

The fact that the first edition of this work has been exhausted within two years is evidence enough of its success and quality. This present edition has been carefully revised and fifteen new pages have been added to the original text. Special attention has been given to the articles on dysentery, yellow fever and malaria. The articles upon diseases of the digestive system are worthy of favorable comment, as the author has given many valuable ideas on diet and treatment. In the article on typhoid fever, under disinfection, the following statement is found: "In hospitals where a compressed steam disinfection plant exists the clothing should be disinfected for four hours at a temperature of at least 140° F." This temperature seems scarcely high enough to be efficient in destroying the typhoid bacillus.

The volume seems rather cumbersome for a book of 1014 pages. This is no doubt due to the heavy paper used by the publisher. The work as a whole is a good one and should be in every physician's library.

A System of Physiologic Therapeutics. Edited by Solomon Solis Cohen, A. M., M. D. Vol. V. Prophylaxis, Personal Hygiene, Civic Hygiene, Care of the Sick. By Joseph McFarland, Henry Leffmann, Albert Abrams and W. Wayne Babcock. 540 pages. P. Blakiston's Son & Co., Philadelphia.

This volume, as the author says, is really an epitome of the natural history of medicine especially as regards the origin, spread and prevention of disease. The various etiologic factors of disease are first classified and considered in as comprehensive a manner as is possible in a book of this scope. Thus the whole subject of bacteriology has to be reduced to its essential facts and compressed as far as possible; after discussing the modes of diffusion of the various causative agents of diseases the means of defense against them and at our disposal are presented, a prominent place being given to the question of immunity and the valuable work which has recently been done along this line. Municipal and domestic hygiene and finally the care of the sick, especially with the view of controlling the further spread of the

disease, are given due consideration. The book forms a concise summary of an exceedingly wide subject and would form an excellent introduction to the study of medicine; it would also be quite intelligible and instructive to the lay reader; a free use of illustrations adds to the value of the work.

The Prevention of Disease. Translated from the German, with an Introduction by H. Timbrell Bulstrade, M. A., M. D., Cantab. D. P. H., etc. In two volumes. Funk & Wagnalls Co., New York, 1903.

The profession at large is indebted to the English translators of this work for a most delightful presentation of the subjects treated of, which might, but for this translation, have escaped altogether the notice of a host of interested readers.

The work has been divided rather arbitrarily into two volumes, which cover in a most thorough way the whole subject of preventive medicine. The chapter on the history of the prevention of disease, which opens the first volume, is in itself an extremely valuable as well as interesting essay. Following this historic introduction the subject of general prophylaxis is taken up and then there follows a series of unusually valuable chapters on preventive medicine which it were well might become more generally known. Lack of space alone prevents our citing any number of references from these pages in illustration of the points emphasized throughout this volume.

Volume II is devoted more particularly to a consideration of the specialities, as the eye, ear, nose, throat, etc., but includes two most illuminating chapters on prophylaxis as regards the nervous system and mental disorders.

There is here and there, throughout these two volumes, much that in our judgment might have been omitted without detriment to the chief points considered, but in a work of this character a certain redundancy is hard to avoid and there is so much that is excellent and so much that is sensible in the text, that one readily overlooks this minor fault. If these two volumes could be edited for lay readers, their sphere of usefulness might, it seems to us, be vastly increased.

The Care of the Baby. A Manual for Mothers and Nurses, containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. Crozer Griffith, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital, Philadelphia. Third edition, thoroughly revised. Duodecimo volume of 436 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1903. (Cloth, \$1.50 net.)

This manual, intended primarily for mothers and nurses, is too well known to need any extended comment. The high standard established by the earlier editions is well maintained in this, the third, and last edition. We know of no single volume

which covers the ground in quite the same satisfactory way, and we consider it an eminently safe book to be put into the hands of every mother and nurse.

The necessary points are made clear and much wholesome advice is contained between its two covers. It is a work which should find its way into the hands of every young mother, a volume which not only will make her path easier, but at the same time will lighten the burden of every physician who works among children.

Uterine and Tubal Gestation. A Study of the Embedding and Development of the Human Ovum, the Early Growth of the Embryo, and the Development of the Syncytium and Placental Gland. By Samuel Wyllis Bandler. 160 pages, with 93 drawings. Wm. Word & Co., New York.

This monograph, a part of which appeared previously in the *American Journal of Obstetrics and Gynecology*, deals with the subject in a lucid and comprehensive manner; the work of V. Spee is extensively quoted in support of the theory of the embedding of the human ovum within the uterine decidua and of the analogous process occurring in tubal gestation.

The author's views upon the origin of the syncytium and Langhan's layer from the cells of the trophoblast seem convincing, but in view of the wide difference of opinion upon this subject held by competent observers they cannot be yet accepted as final. The processes occurring in tubal gestation, the erosion of the tube wall by the action of the trophoblast cells and the lack of a compensatory hypertrophy of the muscularis account satisfactorily for the clinical features of this condition; the contention that no decidual formation occurs in tubal pregnancy is contrary to the opinions of many, evidently the microscopic appearances are capable of different interpretations. The book is freely illustrated with many original drawings, and evidences a careful study of the subject.

The American Year-Book of Medicine and Surgery for 1903. A yearly Digest of Scientific Progress and Authoritative Opinions in all branches of Medicine and Surgery, drawn from journals, monographs, and text-books of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists, under the editorial charge of George M. Gould, A. M., M. D. In two volumes—Volume I, including General Medicine, Octavo, 700 pages, fully illustrated; Volume II, General Surgery, Octavo, 670 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Per volume: Cloth, \$3.00 net; Half Morocco, \$3.75 net.

The last edition of this work maintains the unusually high standard so well known and appreciated in former years. All the recent valuable matter has been carefully gone over and all

new points of real merit have been incorporated in the text; we know of no other work which covers this field so exhaustively or so conveniently.

Volume I is devoted to general medicine and Volume II to the subject of general surgery, the volumes being sold separately if desired. The mechanic makeup is excellent and the heavy type adds greatly to the facility of reference. It is a work which must continue to meet with the success that has been accorded it in the past.

Recent Additions to the Cleveland Medical Library

By purchase—Reference Handbook of the Medical Sciences, Vol. 6; Studies in Typhoid, edited by Wm. Osler, M. D., from the Johns Hopkins Hospital Reports; Cheyne-Burghard, Manual of Surgical Treatment, Vol. 7; Progressive Medicine, Vol. 2, 1903; The Practical Application of the Roentgen Rays, in Therapeutics and Diagnosis, by W. A. Pusey, M. D., and E. W. Caldwell, B. S.; A Text-Book of Legal Medicine and Toxicology, edited by F. Peterson, M. D., and W. S. Haines, M. D.

Donated—C. A. Hamann, M. D., Surgical Anatomy and Operative Surgery, by John J. McGrath, M. D., Journal of Medical Research, Vol. 9; H. E. Handerson, M. D., Handbuch der Geschichte der Medizin, Vol. 1; Jas. D. Bullitt, M. D., Sec'y, Transactions American Roentgen Ray Society, Vol. 1, 1903; Surgeon General, Index Catalog, Surgeon General's Library, Vol. 8, 2nd series.

The annual meeting of the Northern Tri-State Medical Association was held at Montpelier. The discussions were vigorous and the meeting was well attended. The following program was rendered: "The Comparative Value of Some Drugs," by Dr Baldwin, of Quincy, Mich.; "Surgery of the Biliary Tract," by Dr Wyman, of Detroit; "Causes of Death Following Gall Stone Operations," by Dr Porter, of Fort Wayne; "Infant Feeding," by Dr Dickey, of Toledo; "On the Border-Line of Medicine and Surgery," by Dr Holmes, of Chicago; "Why We Should Not Wait for Croup Symptoms Before Undertaking Paracentesis and a Mastoid Operation," by Dr Amburg, of Detroit; "Diseases of the Abdomen," by Dr Gillette, of Toledo; "What Hydrotherapy Will Do for Intractable Cases," by Dr Kellog, of Battle Creek, read by Dr Morse; "A Fad of Degeneracy or a Fad of the Degenerate," by Dr Snyder, of Bryan.

Medical News

S. S. Jordan, of Gallipolis, will locate in Chillicothe.

Ralph C. Kendig, of Hayesville, has located in Akron.

Canton and Massillon physicians had a pleasant outing.

E. M. Foster, of Manchester, will locate in Cincinnati.

Guy Williams succeeds Ralph Holmes at the State Hospital at Columbus.

T. B. Cotton and wife, of Mt. Vernon, left for California about August 1.

It is rumored that there are \$250,000 in sight for the Cincinnati University.

Dr Smucker, a graduate from the Ohio Medical University, has located in Shelby.

The Greene County Medical Society held a meeting recently at the Neff Grounds.

During July a case of Reynaud's disease appeared at the Cincinnati City Hospital.

The physicians of Youngstown have petitioned the city to provide a pure water supply.

Maurice Smith, of Massillon, was fined \$10.00 and costs for failing to report births and deaths.

C. W. Eddington, of West Union, will permanently locate in Texas on account of poor health.

A. J. Leitch, of Niles, has formally tendered his resignation as member of the board of public safety.

W. E. Wirt, of Cleveland, has been commissioned captain and chief of the Ohio Naval Reserves.

H. B. Ormsby and wife, of Cleveland, have returned from their trip through the Rocky Mountains.

P. S. Greenamyer and Smith Orr, of Orrville, are spending some time in Mt. Clemens for their health.

The Columbus Academy of Medicine adopted expressive resolutions on the death of A. B. Richardson.

The new plan of regulating the fees for the health department of Springfield will save the city about \$2,500 yearly.

D. C. Hughes, of Findlay, has been honored with the appointment of State Physician by the Modern Woodmen of Ohio.

In a short time, a hospital with 100 beds will be opened in Liverpool. It will be semi-private and owned by physicians.

There is a movement on foot in Columbus to have the county morgue turned over to the city to be used as a detention hospital.

Resolutions will be adopted in the city council, of Cleveland, to establish ambulance stations, in connection with patrol stations.

The Summit County Medical Society held its annual outing at Silver Lake. Sixty members and their wives were present.

Sallie E. Genrich, of Cincinnati, has sued Joseph Watson for \$5,000 damages for not properly diagnosing her ailments, she alleges.

The appointment of a pension examiner in Upper Sandusky has raised a row between the Democrats and Republicans of that section.

The tenth quarterly meeting of the Tri-State Medical Society was held at Ironton. This meeting was in the form of a basket picnic.

Guy C. Kinniman, of Ashland, has been honored by receiving the appointment of the "Fellowship in Surgery" in Rush Medical College.

Henry C. Schoepfle was the choice of the old soldiers at the Sandusky Soldiers' Home for the new pension examiner on the Erie county board.

Wm. E. Clark, of Youngstown, has begun heavy suits for damages against the Erie railroad, for being, with his two daughters, ejected from a train.

A. E. Evans, of Columbus, was confined to his home during the latter part of July as the result of some lighted sulphur from a match striking him in the eye.

The Montgomery County Medical Society called a special meeting during July and adopted appropriate resolutions on the death of Alexander Jenner.

The "Association of Assistant Physicians of the Ohio State Hospitals" has been formed and G. T. Harding, Jr., of Columbus, has been elected President.

The Columbus Board of Health will in all probability oppose the city physicians' reform plan. They say it will cost the city from \$25,000 to \$30,000 a year.

The infirmary directors and trustees of Clinton township have notified all physicians that they will pay no more fees for services rendered not authorized by them.

Health Officer Schumacher, of Hamilton, requested warrants for the arrest of two prominent physicians because of failure to make report of two contagious diseases.

The Crawford County Medical Society held a meeting recently at Galion. The meeting was devoted to the study and discussion of "Tuberculosis, Its Cause, Prevention and Cure."

R. E. Skeel, professor of Obstetrics at the Cleveland College of Physicians and Surgeons, has been appointed dean. This

makes Dr Skeel the Cleveland representative of the Ohio Wesleyan University.

The Montgomery County Medical Society held a meeting and adopted a memorial in honor of Richard Ralph Pettit. Similar resolutions were adopted by the same Society regarding the death of A. E. Jenner.

The Marion County Medical Society met in regular session, August 14, in their club rooms. A. M. Crane read a paper on "Hematology in Tuberculosis." The meeting was well attended. The next session will be held September 8.

H. H. Drysdale has handed in his resignation as physician-in-charge of the Lodi Sanitarium. The institution under his supervision has prospered and will lose a valuable mainstay in Dr Drysdale. The Doctor will locate in Cleveland.

The Stark County Medical Society met at Canton, July 20. R. A. Biechele read an essay on "Gastro and Intestinal Infections in Infants and Children," and D. S. Gardner, of Massillon, lectured on the subject of "Certain Diseases in Their Relation to Marriage."

Ernest Lueke and Adolph Cuddell, of Cleveland, were drowned while bathing in Lake Erie, August 5. Both were prominent and promising physicians. They were classmates, having graduated from Western Reserve University in 1898, and life long friends.

Thomas Edison claims that the X-rays destroy the leukocytes that come in contact with them. This fact would make the continued use of the ray, along the lines of research, a decidedly dangerous procedure to the operator. Edison, on this account, has given up his investigations entirely.

The Ohio State Board of Medical Registration and Examination assigned the work of deciding upon a curriculum for medical schools in Ohio to a Committee comprising E. J. Wilson, of Columbus; A. Ravogli, of Cincinnati; H. H. Baxter, of Cleveland; and Dr Towers, of Toledo.

The Madison County Medical Society was formed August 5. The Society will hold meetings the last Friday afternoon of each month at two o'clock. The following officers were elected: President, H. S. Quinn, of West Jefferson; Vice presidents, W. H. Christopher, of London, and E. B. Welsh, of Mt. Sterling; Secretary and Treasurer, A. J. Strain, of London.

The Cleveland Health Board has cut the number of district physicians from twelve to six. The six new men will be paid more than the old staff. The reason for this change, as given by the health authorities, is to provide better physicians to the poor. It will be interesting to watch how half a dozen physicians will take care of the poor that go with a city of half a million inhabitants.

We are promised something new in the way of slot machines. For five cents your pulse and temperature will be registered and an indicator will point to the package of pills you are to take. Full directions go with each batch. Machines of this kind have been in use in Europe for some time and it will remain to be seen if the American public are as eager to be swindled as Barnum said they were.

Lewis C. Hopp, President and General Manager of the Mayell-Hopp Company of this city, has just been elected to the presidency of the American Pharmaceutical Association, having in June last been made President of the Ohio State Pharmaceutical Association, of which he had been Secretary for 25 years, or since its organization by his own effort. The members of the State Association at the time of his election to its presidency presented him with a solid silver table service.

Deaths

A. G. Willey, of Wellington, died recently at the age of 82 years.

Paris Brown Parker, of Lawrenceburg, died of yellow fever on board ship. He was only 23 years of age.

William Balmer, formerly of this city, died at Mount Vernon recently. Dr Balmer was 61 years of age.

Frank Buys, who died in Buffalo recently, was a native of Painesville. The funeral services were held in North Madison.

Harden Edwards Bozman, of New Alexandria, died while he was making a professional visit. The Doctor was but 47 years of age.

Alexander E. Jenner, of Dayton, died recently. He was 74 years of age and a member of the 28th O. V. I., which served during the civil war.

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A Brief Resumé of the Literature on the Involvement of the Spinal Nerves and Cord in Influenza

BY EDWARD P. CARTER, M. D., CLEVELAND

Recognizing the peculiar selective affinity of the poison of influenza for the nervous system as a whole, it is not surprising, in a disease which manifests itself in such diverse ways as to win the name "hydraheaded," to find that every nerve-trunk or every nerve-fiber may at some time be involved by the infection.

In an analysis of over 29,000 cases of influenza, Lee¹ found that almost 7,000, or not quite 25%, belonged essentially to the so-called nervous type, this number not even including the isolated nervous symptoms or sequels.

Bearing this in mind, it is evident how impossible it must be to consider, in many instances, the individual lesion of any one or more spinal nerves apart from the contiguous nervous structures often equally affected by the influenza toxin.

The occurrence of neuralgias, so common and distressing an accompaniment of influenza, may be essentially spinal as well as peripheral in origin; while the development of a true infectious neuritis may, extending upward, involve the spinal nerve-trunks, and rarely reaching the spinal cord give rise to a myelitis; or, as in one recorded case at least, the process originating in the upper segment has extended to the lower, in quite the reverse order of what is commonly seen.

The frequency of neuralgia complicating or following influenza has been noted by many writers. Among them Herzog² has described trigeminal, occipital, suboccipital, cervical, brachial, and intercostal. Kinnicut,³ noting the development of acute and obstinate neuralgias during the infection, found trigeminal and

sciatic neuralgias the most common. Jacobi⁴ has seen intercostal and abdominal neuralgia in a boy of six. Nicholson⁵ calls attention to the frequency of neuralgia in influenza, as involving especially the fifth nerve and the intercostals, and further to the fact that a long-forgotten neuralgia is often brought to light again by an attack of the infection. Sansom⁶ has described a group of cases in which there were painful affections of the extremities, and in one instance, in a man of 41, has seen frightful acute exacerbations of pain referred to the right sciatic nerve. Haller⁷ in an analysis of 314 cases of influenza, notes 17 in which an obstinate sciatica was present; and in 209 cases of this series, a peculiar irregularly distributed hyperesthesia was constantly found. The occurrence of similar hyperesthesias and the frequency of spinal pain have been further noted by DaCosta.⁸

In considering the relationship and subsequent course of many of the reported instances of neuritis following influenza which involve to a greater or less degree certain of the spinal nerves, it is often extremely difficult to arrive at an exact diagnosis of the origin of the process, whether spinal or peripheral, or to determine absolutely the extent to which the spinal trunk may be involved. In an elaborate article on some important surgical complications and sequels of influenza, Franke⁹ has noted the development of certain painful affections, resulting from involvement of the spinal nerves, as joint neuralgias, plantar neuralgias, podalgia, metatarsalgia or Morton's "painful affection of the foot;" and has further called attention to the importance of the differential diagnosis, from a surgical standpoint, in cases of neuritis originating from this cause. In this connection he cites the occurrence of instances of postinfluenzal neuritis, which simulated hepatic colic, renal colic, floating kidney, appendicitis and even peritonitis, and curiously enough among the most frequent were cases which were confused with ulcer of the stomach.

In involvement of the upper extremity, he considers a neuritis of the axillary nerve as of greatest significance to the surgeon. Franke makes the interesting observation that it is those regions of the body protected from the air which are most commonly involved by influenzal neuralgias or neuritis. Joffroy¹⁰ writing in 1890, records under the head of scapulohumeral neuralgia six cases which followed immediately a more or less severe attack of influenza. The pain was localized either in the shoulder or in the skin over the deltoid. Its seat shifted, and it was frequently so severe that the arm could not be moved. Diminished sensation was noted occasionally. In two cases atrophy of the

deltoid and pectoral, and in one of the biceps muscles, ensued, pointing to involvement of the circumflex, anterior thoracic, and the musculocutaneous nerves. In these cases contraction of the muscles was painful. A light tap produced an active contraction, and the electric contractility to the faradic or galvanic current was increased.

As to the cause of the muscular atrophy, Joffroy raised the question as to whether it was secondary to a spinal meningitis or due to a primary neuritis developing in the course of an infectious disease. He considered it to have been the result of the latter condition. It is to be remembered that at this time the occurrence of a localized spinal meningitis following influenza had not been definitely established, a point of only historic interest in the light of our subsequent knowledge.

The following interesting case is cited by Westphalen:¹¹ A man aged 25 was seized abruptly with weakness in both legs 14 days after the onset of an attack of influenza. His gait became unsteady, reeling, but not atactic. Power in the arms and legs was greatly diminished, sensibility was normal, and the skin reflexes were normal. The paralysis of the extremities increased to an extreme grade. Paralysis of both facial nerves ensued, followed later by difficulty in swallowing, and weakness in respiratory power, the latter symptom pointing to involvement of the pneumogastric, if not also of the phrenic nerve. This observer believed the condition to be due to a multiple neuritis, and, as against the diagnosis of a Landry's paralysis, considered the sensitiveness of the nerve-trunks and muscles, which was present, an important point. On the other hand, though foreign to our subject, he asked whether or not this and a closely similar case might not be a primary multiple infectious myositis secondary to a peripheral neuritis.

Draper¹² has recorded a case of neuritis involving the median and radial nerves of the left arm, with paralysis and marked atrophy of the muscles involved. An extreme case of multiple neuritis following influenza, involving all the extremities, and characterized by extensive atrophy of the muscles of the shoulder girdle and hands has been recorded by Howen.¹³

Putnam¹⁴ reports the most unusual occurrence of a severe and general neuritis of the motor type which involved the cranial as well as the spinal nerves. The case occurred during the epidemic of 1892, in a boy of 10 who had had a similar attack three years before. There was no history of influenza previous to the present illness, and the former attack, he states, must have ante-

dated the earlier epidemic. Still owing to the rarity of a multiple neuritis in children, except from diphtheria, arsenic, lead, and acute infectious diseases, and the fact that typical instances have been reported after influenza, he considered this case worth putting on record. Putnam (*loc. cit.*) has further noted the occurrence of a polyneuritis in four individuals following an acute catarrhal attack, probably influenza, in whose urine arsenic was found in small amounts, and one case in which both arsenic and lead were present in the urine. None of these individuals were workers in arsenic. In this connection he calls attention to the so-called contributive action of the specific poisons, the presence of one tending to increase the characteristic effects of any other.

Later this same observer¹⁵ recorded a case of incoordination of all four extremities following influenza, associated with impairment of sensibility, and other symptoms pointing to a chronic neuritis, which, in this instance, was undoubtedly associated with a myelitis.

The history is briefly as follows: After subsidence of the acute symptoms of the attack, which occurred in January, 1890, epigastric pain with "girdle sensation" developed, and lasted for a year. The incoordination of the legs ultimately reached such an extreme grade that the patient could walk but a few steps alone. Slight paresthesia was present. Sensibility was greatly diminished, and the knee-jerks were absent. The hands were slightly ataxic. There was slight loss of control over the bladder. At no time were other symptoms characteristic of locomotor ataxia present, and when the patient was seen some 18 months or more after the onset, the general condition had shown a tendency to improve. As Putnam states, all these symptoms point strongly to involvement of the spinal cord, and yet there are facts which render it possible to believe that even such long-standing and progressive affections as this may be related pathologically to disease of the spinal nerves alone. VonWedekind¹⁶ has reported a striking case of myelitis following influenza with involvement of the spinal nerves in a man aged 25, whose history was good, and in whom there was absolutely no history of syphilis.

In January he suffered from a mild attack of influenza complicated by scarlet fever. Convalescence was established by January 18. On February 16 he first complained of weakness and pain in the back and legs, occipital headache and profuse perspiration. On February 21 he became very nervous, was anemic and night-sweats were noted. On February 29 there were symptoms of gas-

tric irritation, and on March 22 the abdomen in the region of the stomach became hyperesthetic.

The temperature had been normal since the establishment of convalescence, and the pulse had ranged between 55-70 to the minute. The pupils were dilated, the extremities were cold and cyanotic, and a slowly progressive muscular paralysis was present. At this time he complained of numbness and a prickling sensation in the legs and arms. The extent of the abdominal hyperesthesia increased steadily, covering ultimately an area as large as a man's outspread hand, radiating from a point just below the ensiform cartilage outward, downward and backward along the margin of the ribs on the right side. The skin became so tender that the most gentle manipulation caused exquisite pain, which was not increased upon deeper pressure. A zone of anesthesia entirely surrounded this area with a sharp line of demarcation. Upon endeavoring to speak, twitching of the lips was so marked as to render indistinguishable what was said.

All food taken was retained a few moments and then vomited, with no nausea, the act being a purely reflex one. It was evident that the cord was involved at several different levels. In the absence of syphilitic history, or other understood etiologic factor, and in the presence of influenza, VonWedekind considered the condition a myelitis (*disseminata*) due to influenza.

As long ago as 1837, Vigla¹⁷ reported a case of acute ascending spinal paralysis followed by death during convalescence from influenza, since which time the number of reported instances has materially increased.

Among these the following case, further complicated by a right-sided pneumonia, is recorded by Laveran:¹⁸ Upon entrance to the hospital the patient presented a complete paraplegia of the lower extremities, which advanced rapidly, involving the upper extremities and finally the bulb. Death ensued from asphyxia.

Autopsy: There was solidification of a large part of the right lung, and, in addition, the cord presented to the naked eye, especially in the cervical region, unquestionable signs of inflammation. The histologic examination was not reported.

A remarkably similar case is recorded by Féréol¹⁹ in a man of 63. The patient had suffered from a bronchial influenza, of moderate severity, and was convalescing, when a paraplegia of the lower extremities supervened, which, assuming an ascending type, progressed rapidly, ultimately involving the bulb, and death followed in a few days.

The case reported by Pailhas²⁰ in 1895, which he describes as

an acute ascending paralysis (*le maladie de Landry*) followed by recovery, is sufficiently interesting to give in detail. The patient, a soldier, aged 23, had an attack of "*la Grippe*" in February. Shortly afterward, while serving in the army, he complained of a severe occipital headache, of "cold feelings" between the shoulders, of abdominal pain, and of faintness. At this time his legs became weak. Three days later severe articular pains were present in the legs, which were ascribed to rheumatism, and there was also slight difficulty in articulation, the patient speaking slowly. Two weeks after the onset the symptoms were as follows: There was great feebleness of the legs and body generally, inability to stand, and difficulty in articulation. The knee-jerks were absent, the heart feeble, only 45-50 beats to the minute, and the hands were cold and cyanotic. During the two succeeding weeks there was gradual improvement, but three weeks after the onset the muscles of the legs did not react to electric stimulation. A week later the knee-jerks were still absent, but the patient could walk, and the articulatory difficulty had almost disappeared. Three months later there was a slight recrudescence; the symptoms, however, cleared up quickly, though it is to be noted that the knee-jerks were still absent.

The resemblance of this case to a postdiphtheritic paralysis is striking, and the writer of the abstract (the original was not available) considers that it may be thought with some degree of justice, that the evidence of the etiologic relationship of influenza is not conclusive.

Bowie²¹ has seen a somewhat similar case following influenza in a boy of 17, with recovery, which strongly suggests the same anatomic lesion noted above. In this instance there was a great weakness of the lower extremities, numbness of the feet, vomiting and slight occipital headache. The grasp of the hands was weak, and the knee-jerks were lost. No difficulty in swallowing or in articulation was noted. There was a slight sensory impairment in the feet for 10 days. During the second week of the attack the urine was retained for a long time, and the bowels became inactive, but no paralysis occurred. After two months the boy was able to stand, though great feebleness was still present.

Turning for a moment to a consideration of some of the other manifestations of influenza involving the spinal nerves, and in this instance a cranial nerve as well, the process apparently having originated in the upper segment, the case cited by Goldflam²² of poliomyelitis superior and inferior, and acute anterior polio-

myelitis is extraordinary, and of unusual interest in that the diagnosis was confirmed by both Charcot and Nothnagel.

The patient, a man 60 years of age, suffered a severe attack of influenza in December, 1889. In January, 1890, the left eye-lid became shut and diplopia developed on this side. In a few weeks the right upper eye-lid drooped. About the same time he complained of great weakness in the legs and of a slight tremor on standing. On April 13, there was first noted a slightly diminished sensation in the fingers of the left hand, together with some incoordination, followed quickly by an extensor paralysis of the middle finger of this hand. Early in May there developed marked weakness in the power of the right hand, involving the flexor muscles, so that the patient was compelled to aid his right hand with the left. This condition was soon followed by symptoms of paresis in both upper extremities, more pronounced on the right side, and this was succeeded in turn by extensor paralysis of all the fingers of the left hand. At this time the right triceps reflex was absent and the left was weak. There was no change in the lower extremities from that already noted. In addition to these symptoms described, evidences of a bulbar lesion became more pronounced and the patient died in July, six months after the original attack of influenza.

It is interesting to note that when he was seen by Charcot and by Nothnagel in June, they both gave a favorable prognosis.

Summary: There was a left-sided ptosis and diplopia, and a right-sided ptosis. Three months later all the external eye-muscles were paralyzed. The pupils reacted to light and in accommodation. Early diminished sensation in the fingers of the left hand and paralysis of the extensor muscles of this hand, soon followed by flexor paralysis of the right hand, with atrophy of the right triceps, were noted. Finally a weakness of the lower left half of the face developed, further evidence that the process had extended to the gray columns of the cervical cord, and, more important still, to the nucleus on the floor of the fourth ventricle. In reporting this case Goldflam emphasizes the remarkable distribution of the lesions present, which, though they developed first on the left side, and even later involved other points on this side earlier, became quite symmetric, with this singular exception that it was the extensor muscles of the left and the flexor muscles of the right forearm which were involved. It is interesting to note that in this case the process had been a descending one from the oculomotor nerve to the spinal cord, in contradistinction to those conditions in which it is usually an ascending one.

Herzog (*loc. cit.*) under the head of a transverse and a disseminated myelitis, has described two cases of spastic spinal paralysis following influenza. The histories are briefly as follows: The patient, a boy, 11 years of age, was seized three weeks after the onset of an attack of influenza with a complete paraplegia of the lower extremities. The reflexes were greatly increased, more so upon the left than upon the right side; electric reaction was greatly diminished; tactile and painful sensations were diminished. There was tenderness over the spinal column. II. In a girl aged 8 years, paraplegia in the lower extremities developed three weeks after the onset of influenza, associated with greatly exaggerated tendon reflexes of the triceps, flexor *carpi ulnaris*. Passive motion of the lower extremities induced severe spasm, and patellar clonus was marked on both sides. There were no sensory disturbances, and no pain or tenderness of the peripheral nerves were present.

A similar case of postinfluenzal spastic spinal paralysis has been reported by Michaelis,²³ and further instances of acute ascending paralysis have been reported by Dupin²⁴ and Gallette²⁵; of myelitis by Eisenlohr,²⁶ Drasche²⁷ and by Apostole and Planet.²⁸

Instances in which a cerebrospinal meningitis or a meningo-myelitis necessarily resulting in the involvement of certain spinal nerves has followed influenza are not wanting. There is further sufficient evidence from the recorded cases to establish the fact beyond a doubt, that we may have a definite postinfluenzal spinal meningitis.

Such a case has been observed by Fiessinger²⁹ in a girl of 18, who developed on the eighth day of a typical influenza an acute spinal meningitis. At this time she could not raise herself up in bed. There was involuntary discharge of urine. The neck was slightly rigid. On the fifteenth day nasal voice, disturbance of deglutition and opisthotonus were present, with intact motility and sensibility of the extremities. Death ensued on the sixteenth day.

For additional recorded cases see Marty's³⁰ elaborate article.

The following instance of cervical meningomyelitis with marked spinal-nerve involvement is reported by Mackay.³¹

The patient, a woman of 38, had influenza in July characterized by intense neuralgic pains up the back of the neck from the seventh cervical vertebra to the vertex, and radiating outward over the shoulders. After this pain had lasted for two weeks a slight loss of power was noticed in the right hand, and a few days later the right arm became weak; she then lost power over both

legs. When seen on September 19 her condition was as follows: There were motor symptoms, the hand-grasp was feeble, and power over the legs was feeble. The patient could not raise herself in bed. There was uniform wasting of the hands and arms on both sides, less marked atrophy of the muscles of the legs; electric irritability was much diminished. The reflexes were increased in both legs; ankle clonus was present on both sides; the knee-jerks were increased.

Sensory: Pain was present in the region of the neck, and was increased on movement. No girdle pains were present. There was numbness of the fingers of both hands, and over the shoulders externally. There were scattered patches of hyperesthesia on the upper surfaces of the arms, and upon the flexor surfaces of both thighs. The reactions of degeneration were present on September 24. Death occurred on November 18.

Autopsy: Only the cervical portion of the spinal cord was allowed to be removed. The spinal cord was swollen. The dura was thickened and opaque. There were no traces of tubercles, or of caries of the vertebra. Anteriorly the dura was adherent to the vertebral column from the sixth cervical vertebra upward, and posteriorly it was adherent to the cord by a fibrinous exudate from the fourth cervical vertebra. Opposite the atlantoaxial articulation the deposit of fibrin reached one-half an inch in thickness. At the lower levels the cord was softened and pulpy. Posteriorly, the vessels of the pia were injected. Atrophy of all the nerve-trunks on the left, as compared with the right side, was present. Good sections could not be obtained.

Another instance of so-called spinal meningitis after influenza associated with a marked degree of paresis of the right arm followed by recovery, is reported by Pfuhl.³²

Considering the more specific and individual involvement of certain of the spinal nerves themselves, the following case of Erb's paralysis after influenza reported by Fenberg³³ is of unusual interest:

The patient was a man 38 years of age, apparently well, from whom no history of syphilis could be obtained. He was seized with an attack of influenza, but in spite of fever, headache, backache and pains in the joints, he kept at work. Eight days later he had a severe chill, followed immediately by intense pain which radiated from the back of the head over the neck, throat, shoulders, upper chest, and right upper extremity. In addition to this pain, paresthesia, and a sensation of stiffness were present in the affected member, followed by complete immobility of the

right arm. Soon after this the patient noticed a gradual wasting of the muscles of the entire arm. The intense pain lasted four months, and in a milder degree about the shoulder and throat many months more. Inspection several months after the attack showed the right lid-fold slightly narrowed, together with slight retraction of the eye-bulb. Reaction of the pupillary and eye-muscles was normal. The facial, trigeminal, hypoglossal and vagus nerves were not affected; the tongue was normal; the speech was undisturbed; the taste was intact; the head was drawn slightly to the right and the chin upward; passive movement was possible. The upper half of the sternocleidomastoid muscle was weaker than normal; the lower half was almost normal. The supraclavicular fossa was deepened. The pectoral muscle was atrophied. The deltoid, middle and posterior third were atrophied; the anterior third was normal; the upper arm was abducted, raised and drawn slightly backward; the biceps, *brachialis internus*, *supinator longus*, *supinator brevis*, and pronator muscles were paralyzed and atrophied; the *flexor carpi radialis* was completely paralyzed; the *flexor carpi ulnaris* was paretic; the hand was in slight flexion and supinated; the extensors of the hand were paralyzed. The *extensor communis digitorum*, *indicis*, *minimi digiti*, and *palmaris longus* were paretic. On the dorsal surface of the hand the two last *interossei* were atrophied; the thumb was extended; the little finger-pad was markedly atrophied, the thumb-pad to a less degree. (Enumeration of the posterior muscles was omitted.) Touch, pressure, localization, temperature and pain sense were normal; the tendon reflexes were wanting; passive movement was retained. There was no spastic condition, and no contractures. Pressure on the paralyzed muscles was painless, but deeper pressure upon the nerve-trunks was very painful.

Diagnosis: There was neuritis of the roots of the brachial plexus involving the superior and inferior branches, or combined Erb-Klumpke's-paralysis affecting the suprascapular, axillary, anterior thoracic, musculocutaneous, long thoracic, radial, median and ulnar nerves. There can be no doubt that the fifth to the eighth cervical roots, and, in addition, the first dorsal, were affected in this case.

The differential diagnosis must be made from a cervical *pachymeningitis hypertrophica interna*, in which there would be, in addition, sooner or later, evidences of cord involvement, with atrophic paralyses of the upper, and spastic paralyses of the lower extremities, together with anesthesia and bladder disturbance,

from an acute anterior poliomyelitis with which the symptoms noted above closely agree. An acute poliomyelitis, however, does not usually begin with the intense pain seen in this case, which lasted for months, and in addition the latter condition is more frequently bilateral.

A brachial monoplegia of cortical origin is excluded by the absence of cerebral symptoms, such as cerebral nerve paralysis, contractures, by the diminished electric activity of the nerves and muscles, and finally by the absence of the tendon reflexes.

Instances in which the phrenic nerve has been involved by the infection have been reported by Peter³⁴ and by Brionne³⁵; while VonRad³⁶ has recorded a case of uncomplicated paralysis involving the posterior thoracic nerve following influenza.

In the light of our present knowledge of the pathology of *herpes zoster*, as given in a recent monograph by Head and Campbell,³⁷ its occurrence in the course of influenza, must, it seems to the writer, assume a new position in the complications and sequels of this infection; and, in the face of the evidence adduced by the writers noted above, we are certainly justified in considering this condition, anatomically at least, as much a lesion of the spinal nerve roots and spinal nerves, as an acute anterior poliomyelitis, with this difference only, that it is the posterior nerve roots which are involved.

Knapp,³⁸ writing in 1892, considered the occurrence of *herpes zoster* in influenza as essentially a peripheral nerve involvement.

Additional instances of *herpes zoster* following influenza have been reported by Umpfenbach³⁹ and by Natalucci.⁴⁰

In noting the influence of influenza upon certain other nervous conditions already existing, or which develop in its course, VonHolst⁴¹ has called attention to the fact that all motor disturbances are more frequently increased than lessened.

Sansom (*loc. cit.*) concludes that, aside from the acute manifestations, the late phenomena are better explained by actual inflammatory changes in certain parts of the peripheral nervous system. In cases of visceral neuralgias, hepatalgia, gastralgia, and cardialgia there are often signs of localization, and in some instances of local tenderness that point to a local cause. In some such it seems probable, according to this observer, that the sympathetic fibers and ganglia are alone affected. In those cases characterized by arrest of the heart's action, retching, vomiting, etc., it is most probable that the vagus is involved; but even in these instances might not the effects be due to a peripheral irritation?

Hughes⁴² regards influenza in its effect upon the nervous

system as an adneural infection, and calls it a toxic neurosis. He also emphasizes the fact that the neuropathic lesions, peripheral as well as central, following influenza, are rather more apt to recover than are other similar and apparently equally grave nervous lesions.

In conclusion it is evident, from the instances cited, that under certain conditions the toxin of influenza exhibits a remarkable predilection for the spinal nerves, and cord as well, giving rise, in the case of the former, to a neuritis of the nerve-trunks, or of the peripheral nerves, which in many ways closely resembles that seen following diphtheria; while in the case of the latter, it is capable of inducing almost any one of the recognized pathologic lesions. As a rule the involvement of the nerve-trunks is seen late in the course of the disease, commonly sometime after the establishment of convalescence, and is peculiar in that it shows no constant affinity for any single nerve, or group of nerves, picking out in one case a group here and in another a totally different set, and again a single nerve-trunk, or peripheral nerve.

As a rule upon subsidence of the acute symptoms recovery follows quickly, though the case reported by Putnam, already noted, and a number of instances recorded by Franke (*loc. cit.*) may well be regarded as examples of a chronic post-influenzal neuritis.

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Cases of Isolated Paralysis of the Suprascapular Nerve

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The number of cases of this paralysis which have thus far been reported is very limited, and I believe they have never before been grouped together, so that I shall quote each of them in brief.

Case I: Bernhardt (*Neurol. Centralbl.*, 1889, 214) reports the instance of a male, aged 48 years, who fell from a height of one meter. He attempted to break the fall with his extended right arm, so that he sustained a severe contusion of the right shoulder-joint. At the examination, some time after this, the member still pained, both during active and passive motion, and a grating in the joint was also to be felt. Ventrally, the right and left arm could be raised to the vertical in both the sagittal and frontal planes. There was a very evident depression in the right supraspinous fossa, and a marked deepening of the infrapspinous fossa. Rotation of the arm outward could be accomplished by the vicarious action of the deltoid and teres minor.

Case II: Bernhardt (*Berl. klin. Wochenschr.*, 1894, 2) reports that an isolated paralysis of the right suprascapular nerve was noted as the result of a neuritis, the cause of which is not given. The man appeared in the hospital complaining of pain in the right shoulder. Some time after, during the same month, the pain had moderated, but increased during motion at the shoulder and beneath the acromion. There was also some difficulty in the elevation of the right arm. Inspection from behind showed that the right scapula lay somewhat lower down than the left, and its inner border, which was vertically directed, measured $\frac{1}{2}$ to 1 cm. further distant from the vertebral column than the corresponding border of the left side. Toward the acrominal end—in the supraspinous fossa, as compared to the left side—a shallower area was

to be observed. The infraspinous region was much deepened; the infraspinous muscle seemed to be totally absent. The rhomboid, *levator angulae scapulae*, trapezius, and *serratus magnus* were healthy and functionated normally, and had good electric reactions. The arm could be raised to the horizontal with perfect ease by the deltoid. With further efforts it could be raised to the vertical both in the frontal and sagittal planes, but the exertion of the deltoid and the upper portion of the trapezius became very evident during this movement. It appeared that these muscles endeavored to aid the arm to overcome the obstacle, and a distinctly palpable jerk gave the indication of the successful attempt, after which the arm continued its elevation to the vertical with ease.

The explanation of this condition was that the arm hung too low, as if subluxated downward in consequence of the paralysis and atrophy of the supraspinatus—"the active suspensory ligament of the arm." (Duchenne.) At the beginning of the elevation of the arm, the head of the humerus was placed still more on the inferior border of the glenoid cavity and even slightly below it, so that it required a special exertion on the part of the deltoid, which was no longer functionally assisted by the supraspinatus, to raise it over this border. With a jerk it finally sprang into the cavity in the position it should have occupied in the beginning. External rotation of the arm was hindered if not impossible. Writing remained uninfluenced, but in sewing the needle was always pointed externally. The arm could be well directed posteriorly, and all the other muscles of the upper extremity were unaffected. The electric stimulation—both direct and indirect—of the infraspinous was lost.

Case III: Sperling (*Neurol. Centralbl.*, 1890, 290) reports the case of an old woman aged 50 years, in whom the etiology of the paralysis could not be definitely determined. A pain suddenly appeared in the left shoulder, which during the following night spread to the arm and elbow. On the following morning the entire arm was paralyzed, the pain persisting. After eight days the movements of the arm gradually reappeared. Three weeks after the arm could again be elevated; this elevation, however, did not occur vertically to the trunk, but the arm, after a rotation in the external direction, was elevated in a backward direction. From the latter position a total elevation was possible after gradually reaching the horizontal. The left hand could thereby be placed fairly well upon the back, but not upon the right shoulder, hardly reaching the right breast.

The movements of rotation, especially externally, could be accomplished; but those of elevation anteriorly and antero-laterally, were executed with a great exertion. After five months of electric treatment a marked improvement in the movements of the shoulder was noted. The placing of the left hand on the right shoulder was, however, still very much impaired. The infraspinatus muscle, as compared with that of the right side, was

much flattened, while the supraspinatus, which had previously given an indication as to atrophy, was now in no way dissimilar from the muscle on the right side. The skin folds were thinner on the left side, the integument over the infraspinatus muscle being looser, and a pinching of the muscle was not possible to the same degree as on the right side.

Upon pressure with the finger a spot the size of a "Zweimarkstück," 2 cm. distant from the spine of the scapula and its vertebral border, was found to be especially painful as well as hyperesthetic. Among the sensory disturbances the diminution in sensation of the dorsum of the right hand is to be mentioned, which had appeared in the first week of the affection and had persisted since then.

The scapula of the left side was rotated around its internal angle, so that the internal border was directed obliquely from below externally in a superior and internal direction; it thus varying from the normal in that the shortest distance of the middle of the median border and the angle of the scapula from the spinous processes of the vertebra was 2 and 4 cm. to 3 and 7 cm. on the right side. The inferior angle was therefore approximated to the median line in contradistinction to the view of Duchenne, that, in total supraspinatus paralysis this approximation of the scapula to the median line is so great that its median border is directed from below inward, upward, and outward.

Case IV: Benzler (*Neurol. Centralbl.* 1891, 251) mentions the case of a soldier who had over-exerted himself, and who thereafter experienced a pain in the region of the shoulder, followed by a weakening of the right arm which gradually increased in severity. On examination a depression of the infraspinous fossa was noted. Beneath the integument over this part only a thin layer of tissue was to be felt over the bone. The right scapula was a little further distant from the vertebral column, and was also placed lower than the left. Raising of the right arm in the extended position was easily accomplished but with less power than in the left, and similar flexion and extension of the wrist and the pressing of the hand was weaker on this side.

The patient was unable to bring the arm forward in the sagittal plane, and the arm passively raised to this position could not be held there. On placing the right hand on the left shoulder the arm flexed at the elbow was raised at first in the frontal direction to a horizontal plane, and then was drawn by the pectoralis over to the other shoulder. With the arm at the side internal and external rotation could be perfectly accomplished. The latter movement was, however, weaker than the corresponding movement of the left arm. The patient only complained of pain during the elevation of the arm to the opposite shoulder in the region of the acromion. About 2 cm. from the spine of the scapula and from the median border of this bone a sensitive spot about the size of a "Zweimarkstück" was found. Electric examination showed a partial degenerative reaction in the area of the suprascapular nerve. There was no fibrillary twitching.

Case V: Goebel (*Deutsche Med. Wochenschr.*, 1897, 298) reports a case of isolated suprascapular paralysis which was at first complicated with other paralyses. A carpenter fell from a height upon the ground striking his right shoulder. After being unconscious for half an hour, he walked to his home. He had sustained a contusion of his right hand and "a sprain of the shoulder," which necessitated his supporting the arm with the left hand owing to the pain when the same hung at the side. The entire region of the shoulder was swollen. All passive motions of the arm were painful, with the exception of a slight swinging of the arm in the anteroposterior direction. Abduction was actively impossible, and passively could also not be accomplished owing to the pain.

In the diagnosis, fracture and dislocation could be excluded; and a few days later with the subsidence of the swelling, the existing symptoms indicated a paralysis of the *levator angulæ scapulæ*, *rhomboideus*, *latissimus dorsi*, *teres minor*, and clavicular portion of the deltoid. Ten weeks later there was found an emptiness in the *fossa infraspinata*, there being no muscular tissue overlying it, with the exception of the lower angle, which was covered by the *latissimus dorsi*. The *fossa supraspinata* also appeared somewhat flattened, especially in the region of the acromion, but this was not as apparent as over the infraspinous fossa. There was a feeling of looseness in the shoulder joint. In the elevation of the arm as viewed posteriorly it was easily brought to the horizontal; then the motion ceased, the scapula being pulled somewhat inward and upward, in that the upper portion of the trapezius became strongly prominent; and after a more or less distinct jerk the elevation of this member continued uninterruptedly to the vertical. During the last phase of this movement the looseness of the joint was felt very distinctly by the patient.

Case VI: Steinhausen (*Deut. Med. Wochenschr.*, 1899, 360) reports the case of a young man, aged 19, who in the gymnasium, while slowly lowering himself from the crossbars with flexed elbows, suddenly felt a jerk in the right shoulder. He continued his gymnastic exercises, but felt a gradually increasing pain in the posterior portion of the shoulder, which persisted for about three weeks, and which at times increased during the night, but was never severe enough to demand medical treatment. After this it decreased and disappeared permanently, but a gradually increasing weakness then appeared.

The examination showed the man to be a very muscular and well-nourished individual. Over the right shoulder a very distinct, almost triangular depression over the infraspinous fossa was at once noticed. Immediately beneath the integument a flat bony surface could be palpated. The right *supraspinous fossa*, as compared to that of the left side, was also flattened so that the spine of the scapula on the right side was very prominent, while on the left side it could not be seen. The trapezius on both sides was equally excitable to electricity. The right and left shoulders were

of the same contour and same height, and the scapula had the same position on both sides. All the motions of the shoulder were unhindered, especially external rotation of the arm; but the force of the latter on the left side as well as that of forward and lateral elevation on this side, was diminished. The reaction of the left infraspinatus to direct and indirect electric excitation was totally abolished, while those of the deltoid and *teres minor* were somewhat increased (vicarious action of these muscles). Disturbances of sensation were not present. The treatment consisted of massage, douches, and galvanic current. After five months there was no improvement.

Case VII: Hoffman (*Deutsche Med. Wochenschr.*, 1900, 260) reports the case of a male, aged 22 years, who fell from a wagon striking his head, neck and left shoulder, at the same time feeling something break in the region of the left acromion and upper part of the scapula. For three weeks after the accident he experienced severe pains during the elevation of the arm. At the end of this time he noted a certain weakness during the elevation of the arm which gradually increased so that he presented himself at the clinic.

The examination showed him to be a medium-sized man of very powerful build and healthy appearance. There was no scar or callus from the injury. Viewed from in front no difference in the form of the shoulders was to be noted. From behind a marked flattening of the left shoulder was noticed. On the left side the infraspinatus muscle was flattened, and but little of the muscle was to be felt. Above the spine of the scapula there was no difference from the right side. The integument was everywhere unaltered but over the left infraspinous fossa the sense of touch was decreased. The motions of the arms and shoulders on both sides were accomplished without any apparent disturbance, but the patient complained that, in elevating the left arm and also during its rotation, a sense of weakness was to be felt.

When the elevation of the arm in the frontal and sagittal plane was opposed, it was noted that these movements could be accomplished with less force on the left side. This became the most noticeable when external rotation was compared on the two sides, in this manner. While on the right side the externally-rotated arm was with difficulty turned inward when force was applied, on the left side this was easily accomplished. Pain and painful points were absent.

The electric examination gave a complete degenerative reaction of the left atrophied infraspinatus. Through the nerve this muscle could not be excited by either the galvanic or faradic currents, and the direct excitation of this muscle was also lost to the strongest faradic current. All other muscles had a normal electric reaction, that of the supraspinatus not being determined as it was covered by the trapezius.

Suprascapular paralysis is a much rarer form of isolated paralysis than either circumflex or long thoracic paralysis. The

first case of this rarity was described by Bernhardt in 1886. Since then, however, additional cases have been observed by the same writer in 1889 and 1894, while other observers have also encountered this affection; Hoffmann (1888), Sperling and Benzler (1890), Goebel, Steinhausen and Hofman. In all, this number does not exceed ten, so that the study of the symptomology and clinical courses of this paralysis is limited to this small number of observations.

Etiology: The cause of suprascapular paralysis is either a traumatism or neuritis from other causes of this special nerve. In some of the instances thus far reported a fall from a height is given as a causative factor, while in other instances this fall is said to have occurred on the extended hand or directly upon the shoulder. As other traumatic instances there are given the gradual lowering from cross-bars (case of Steinhausen) and over-exertion (case of Benzler). Gowers, moreover, states that isolated suprascapular paralysis may occur either alone or in conjunction with circumflex paralysis in dislocations of the humerus, as also by carrying heavy weights on the shoulder; while Church adduces a dislocation of the humerus as a cause of this paralysis. Tillmann states that the suprascapular nerve is most likely to be injured in connection with fractures of the scapula. Cases of this nature have, however, not as yet been reported, so that the assumption is seemingly based on purely theoretic grounds. Another cause which may produce this paralysis is a neuritis of whatever origin. On theoretic grounds the infectious diseases, typhoid, etc., may lead to such a sequel.

Most of the cases so far recorded have been observed in the male sex, occurring during the active periods of life in such vocations as laborers, soldiers and athletes, in all of which the exposure to traumatism is great.

Pathology: As in isolated paralysis of the circumflex or long thoracic nerves, the pathologic lesions which are associated with the paralysis are:

- (1) Contusion of the nerve.
- (2) Laceration of the nerve.
- (3) Complete loss of continuity of this nerve.

The most frequent and direct dynamic factor in the production of these lesions is usually stated to be the compression of the nerve between the surrounding bony structures, as between the clavicle and the transverse processes of the fifth and sixth cervical vertebrae or the first rib. Goebel, for instance, asserts that in his case the paralysis occurred from the compression of the clavicle

against the vertebral column, whereby the suprascapular nerve was torn. Steinhausen also gives as the etiologic factor compression of the nerve either between the clavicle and the first rib, or the fifth and six cervical vertebrae.

The former of these views essentially agrees with the statements of Gaup, Kron and Budinger concerning narcosis paralysis of the upper extremities, as well as that of Sherwald in brachial paralysis, while the latter opinion is in accordance with the statement of Hoedmaker and Nom in Erb's paralysis. The fact that this nerve can be singly affected at this point without the involvement of other nerves is largely dependent upon its anatomic disposition. Arising from the upper cord of the brachial plexus it is generally stated to contain fibers from the fifth and sixth, as also from the fourth, cervical nerves. In this portion of the neck its size exceeds that of all other nerves with the exception of the long thoracic nerve which equals it. Directly after its origin it proceeds posteriorly downward in a slightly oblique direction, or almost transversely, coursing beneath the trapezius and is crossed by the omohyoid, soon after which it enters the suprascapular fossa and passes beneath the transverse ligament, which bridges the suprascapular notch.

In the suprascapular fossa two or more branches are distributed to the supraspinatus muscle, the nerve then winding around the spine of the scapula and entering the infraspinous fossa, where it terminates by dividing into numerous divergent branches which supply the infraspinatus muscle. For the purpose of clinical study as pertaining to the isolated paralysis of this nerve, it can most aptly be divided into its cervical portion, which extends from its origin to its scapular foramen, and to the scapular or terminal portion, which extends from the latter point to its termination. Of the two portions in question, the first is by far the more frequently, if not invariably, involved in cases of a traumatic nature, while a neuritis may involve either portion of the entire nerve.

In the scapular portion of the nerve, paralysis may be assumed to result from fractures of the scapula, or from the compression of tumors, such as sarcomas, etc.

Symptoms: The symptoms of this isolated paralysis have been variously enumerated by the different observers. In the description of their cases by different writers an exact conformity as to the symptoms peculiar to this affection is not to be found. Among these symptoms a defect in the external rotation of the arm has been reported in a number of cases, this deficiency being attributed to the palsy of the infraspinatus, and, according to

others, also of the supraspinatus. This impairment of external rotation is furthermore said to interfere with numerous movements, and among others with those which are executed during writing and sewing. The elevation of the arm in the sagittal and frontal planes is also stated to occur with less power, and another symptom depending on the loss of the muscular function is looseness of the joint. A partial rotation of the scapula inward, as well as a variable degree of anesthesia over the bone, have also occurred. The predominant symptom upon which all agree, but which only becomes evident in time, is the atrophy of the two muscles supplied by this nerve, causing shallowness or depression of the two fossas, which is at once evident to inspection.

Upon a closer insight into the symptoms which have been enumerated, the functional alterations of the supra and infraspinatus muscles is seen to be usually limited to a weakness of the movements which are the result of their action. The supraspinatus is, as usually stated, the synergist to the deltoid, in that it aids in the elevation of the arm to the horizontal. Another action pre-eminently possessed by the supraspinatus is said to be the retaining of the head of the humerus in apposition with the glenoid cavity during the elevation of the arm by the deltoid. Simultaneously with this action it is also said to prevent the downward luxation of the humeral head during this movement, so that in brief this muscle seems to fix the head of the humerus in the glenoid cavity.

Duchenne, for this reason, applied to this muscle the term of "the active suspensory ligament of the arm." This action of the muscle, however, has been called into question. Steinhausen, citing Fick and Weber, states that it seems doubtful that this muscle should alone have this action, and that the long scapulohumeral muscles, such as the biceps, triceps, and especially the deltoid, should not be credited with a similar action. In several of the cases of suprascapular paralysis, it seems, however, that this suspensory action is substantiated. In one of Bernhardt's, it is stated that during the elevation of the arm, a distinctly palpable jerk was noticed, after which the arm continued its elevation to the vertical with ease.

The explanation of this condition was that the arm hung too low as if subluxated downward, in consequence of the paralysis and atrophy of the supraspinatus muscle.

In another case, that of Goebel, after a more or less strong jerk, the elevation of the arm continued uninterruptedly to the vertical. During the last stage of this movement a distinct loose-

ness in the joint was felt by the patient. This writer states that the subjective looseness in the joint, and the corresponding jerking during the elevation of the arm, is a symptom of suprascapular paralysis. The assumption of a suspensory action of the supraspinatus seems justified also in certain instances in which a flattening of the shoulder is said to have occurred, this being due to a partial displacement of the head of the humerus downward.

According to Gowers, in paralysis of this muscle, the head of the humerus is less firmly fixed and the deltoid more readily fatigued; while, when both muscles are conjointly paralyzed, the head of the humerus is said to fall more than when the deltoid is paralyzed alone. In the majority of cases, it is, however, to be noted that a disturbance of the fixity of the joint does not become evident.

From a purely anatomic consideration it appears that other muscles in relation to the joint could well guard against such an occurrence when the supraspinatus is either permanently or temporarily thrown out of action. Essentially the assumption of Steinhausen seems most logic and correct; namely, that the deltoid and other scapulohumeral muscles are able to prevent the preternatural looseness of the shoulder joint, which has been ascribed to suprascapular paralysis. It seems, also, that granting that a looseness of the joint should occur in the first stages of this paralysis, the vicarious action of the synergistic muscles would later most efficiently repair this faulty condition.

Of the functional alterations in the movements of the shoulder, the impairment or total loss of external rotation has been mentioned as a distinct symptom, this resulting from the inaction of the infraspinatus which constitutes the most powerful rotator of the arm. Duchenne gave to this muscle—it being the external rotator of the arm—an important place in the acts of writing and sewing. For this reason these acts should seemingly be much impaired, if not totally abolished.

In the cases of Bernhardt and Goebel, this supposition seemed to be verified, but the later reports rather tend to disprove this assertion. While the assumption of Duchenne concerning the acts of writing and sewing is undoubtedly correct, the reason that these acts are not abolished by the palsy of this muscle is explained by the vicarious action of other muscles in which the *teres minor* plays an important part.

Among other muscular symptoms the weakness in such movements of the arm as abduction, elevation in the sagittal and frontal planes, either singly or conjointly, have been frequently

observed. This symptom, which seems out of proportion to the functional importance of these muscles, would apparently indicate that the supraspinatus is a more powerful synergist to the deltoid than it is usually considered to be; but the more plausible assumption seems that the movement of elevation becomes impaired and that a partial luxation of the head of the humerus from the loss of the suspensory action of the supraspinatus is either present, or that pain attends this movement.

In other cases it is also probable that the circumflex nerve, which derives a portion of its fibers from the same cervical nerves as the suprascapular nerve, is simultaneously involved. These impairments in the various movements of the arm are the more evident in the earlier stages of the paralysis, as the vicarious action of the synergistic muscles tends to become established in the later stages of this affection. The muscles which assume such a vicarious action are the deltoid, trapezius for the supraspinatus; and the *teres minor* for the infraspinatus. This vicarious action of the deltoid, as well as that of the upper portion of the trapezius, was observed in one of the cases of Bernhardt; while in another of his cases, as well as that of Steinhausen and of Sperling, a functional increase in the *teres minor* was noted.

The pathognomonic symptom of suprascapular paralysis remains the depression of the fossas which are occupied by the supra- and infraspinatus muscles. It alone among all symptoms is constantly present, being invariably found in the latter stages of the affection, when, owing to the loss of innervation, the atrophy of the two muscles has progressed to a sufficient degree.

In the first stages of the disease it is, of course, absent, not appearing till probably six or eight weeks or more after the receipt of the injury to the nerve. The degree to which the atrophy of the muscles may progress is variable; in some cases the shallowness being referred to as a marked deepening or an evident depression, while in others the muscles, and especially the infraspinatus, seemed to be totally absent, the bone being felt beneath the integument, only a thin layer of tissue intervening between the two.

For the reason that the trapezius overlies the supraspinatus the atrophy of this muscle and the corresponding depression in the fossa it occupies, is not as apparent as that of the infraspinatus.

The displacement of the scapula, which occurs in suprascapular paralysis, consists, according to Gowers, essentially of a rotation so that the inferior angle is moved inward and upward.

Duchenne gave for total suprascapular paralysis a direction of the median border of the scapula from below inward, upward, and outward. Bernhardt, on the other hand, found that in one of his cases the scapula of the affected side lay somewhat lower than that of the normal side, and its inner border was also directed more vertically and was farther distant from the vertebral column. In Sperling's case the scapula was rotated around the internal angle, so that the median border was directed from below externally upward and inward, and the inferior angle was approximated to the middle line.

In the case of Benzler, a similar occurrence to that of Bernhardt was noted. In Steinhausen's observation both scapulas had the same position; while in Hoffman's, the scapula of the affected side lay nearer to the vertebral column.

Whether scapular displacement can be stated to be a definite symptom of suprascapular paralysis seems doubtful. It would appear, however, that inaction of the arm or its more limited use, which would result from this paralysis or from the pain on the movement of the arm which attends this, could be a cause of a slight displacement. Displacement from this cause should manifest itself as downward, with a slight approximation toward the vertebral column, the inferior angle being displaced inward.

Another theory advanced for the scapular displacement is that this bone acquires a certain degree of fixation to the humerus by means of the tendons of the supraspinatus and infraspinatus, which points of fixation should tend to support the scapula in an inward and outward direction, so that, correspondingly with the paralysis of the muscles mentioned, the scapula drops slightly downward and inward. For the reason, however, that other muscles which are attached to the scapula would tend to counteract this predisposition, this assumption does not appear as probable.

There still remains to explain the displacement the presumption that in the cases of so-termed isolated suprascapular paralysis with partial displacement of the scapula, other muscles, such as the trapezius, may be to some extent involved; *i. e.*, somewhat weakened, whereby this symptom could most easily be accounted for. In instances in which other muscles were at first involved, and ultimately only the paralysis of the suprascapular group persisted, as in Goebel's case, this seems probable. When no such complications previously existed, other reasons must be sought for. That the slight displacement of the scapula occasionally exists, there is no reason to doubt. In no case, however, was

the comparative position of the two scapulas ascertained before the injury. Normally the right scapula, owing to the more constant use of the right arm, does not in its position, size, or shape correspond to that of the left side, so that in the symmetry of the two bones alone a cause of this displacement primarily exists, which is independent of the paralysis. As another cause the muscular weakness from the inaction of the arm has already been mentioned. Both of these can be stated to represent the causes of the scapular displacement when present.

Of the symptoms of the nervous type, pain in the region of the shoulder joint and anesthesia over the scapular area have been mentioned. The former of these is inconstant and variable, being experienced while the arm is at rest, or during its movements, and probably tending to disappear after the first stages of the affection.

Anesthesia over the scapular area has been noted in a few cases. In Hoffman's case the sense of touch was decreased over the infraspinous fossa. Benzler and Sperling on the other hand, report a spot of hyperesthesia about 2 cm. distant from both the spine of the scapula and its vertebral border. Anesthesia over the scapular area has also been noted by other observers.

To summarize the important symptoms of isolated supra-scapular paralysis in the order of their diagnostic importance we have:

- (1) The depression or shallowness of the supra- and infraspinous fossas.
- (2) The impairment of external rotation of the arm.
- (3) Frequently a weakness in the elevation or abduction of the arm.
- (4) A probable slight displacement of the scapula.

Diagnosis: In the differential diagnosis of this affection but few things need to be considered. When the depression of the supra- and infraspinous fossas is already present, the diagnosis is apparent at the first glance, and there remains but the question whether these muscles are affected singly or whether other muscles are conjointly involved. In the earlier stages of this paralysis, however, when the atrophy of these two muscles does not yet give a definite indication as to the existing affection the diagnosis may not be as easily established. Pain and the limited use of the arm, with a probable impairment in external rotation, are then present. These symptoms are, however, also common to other paralyzes, as deltoid paralysis, as well as rheumatism, and all inflammatory processes, articular or periarticular, etc.

In such instances in which the diagnosis is obscure a few successive examinations, in which the electric reactions of the several groups of muscles surrounding the shoulder-joint is tested, should in time reveal the exact nature of the pathologic condition present. It is apparent that the diagnosis cannot in all instances be immediately ascertained. On account of the rarity of this form of paralysis it easily escapes detection unless its most important symptom—the depression of the supra- and infraspinous fossas—is very pronounced.

General considerations and treatment: I have not referred to the individual treatment of these paralyses during their consideration, since what applies to one is equally appropriate for all. The routine after-treatment in most cases has been the various antirheumatic preparations, and, later, electricity, strychnin and massage.

Regarding this treatment I can only say that when the cause is evidently a sudden traumatism, cold and rest are the most beneficial local measures during the acute stages. It has been my desire not to advance any new or improved method of treatment, for the methods now in vogue have proved fairly satisfactory, so far as medical measures go; but I have endeavored to point out in each case so far as I was able the synergistic action of other muscles which might, by careful and intelligent development, be so exaggerated or altered in their functions as to take the place of those which are partially or totally paralyzed.

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Nephrectomy, Indication for, with Report of Five Cases

BY HENRY A. BECKER, M. D., CLEVELAND

Since the first successful nephrectomy, performed by Gustav Simon in 1869, for the relief of a urinary fistula in a woman, this operation has been performed many times for the relief of the various surgical diseases of the kidney. The wonderful progress of surgery in the last ten years has made it a comparatively safe procedure in the hands of the careful and conservative operator.

The chief and foremost question which confronts a surgeon about to remove a diseased kidney of whatever character is a two-fold one, namely :

(a) To establish absolute proof of the presence of a second kidney, and

(b) As nearly as possible the state of functional activity of this second organ.

Reliable statistics show positively that in one case out of every 4,000 there is entire absence of one kidney, in one out of 16,000 cases a horseshoe-shaped kidney, and in one out of 8,000 cases a single fused kidney. The comparative frequency of these anomalies alone should demand caution, as nephrectomy in the presence of any one of these would undoubtedly prove fatal.

Much work has been done of late years, both abroad and in this country, in the direction of establishing reliable means of determining the functional activity of the second kidney. To review these would require too much time and space.

Of all methods proposed the following procedures have proved for the present of most value: A daily systematic chemical and physical examination of the excreted urine with reference to comparative 24 hours' quantity of urine, of urea and chlorids; the freezing-point of the urine and blood; cystoscopy; and lastly ureteral catheterization.

The last two in order have received the greatest attention of workers in renal surgery. By cystoscopy, when employed in a moderately clear medium, much can be learned to establish a definite diagnosis, namely, the presence or absence of bladder lesions, which might be a part of the pathologic process going on in the kidney; the presence or absence of ureteral openings, and the character of the urine as it escapes periodically from each ureter. If, after a careful cystoscopic examination, there is still doubt as to the character and location of the lesion, ureteral catheterization becomes justifiable. There are two reasons for extreme

care in its employment: First, the irritation and inflammatory reaction following the mechanical manipulation necessary for the procedure, and, second, the danger of infection, which is great, as the catheter must of necessity pass through a nonsterile medium which is constantly contaminated by the excreta from the unhealthy kidney. The latter objection can be partially overcome, however, by passing the catheter up the ureter on the affected side, with this in *situ*, after irrigation of the bladder, instead of catheterizing the ureter, gathering the urine from the well side as it slowly collects in the bladder.

Many are the conditions possible in the kidney for which nephrectomy is the only relief. Some are acute, others chronic, some are of sudden onset, demanding immediate interference; others running a slow developmental course with exacerbations taxing the patient's strength and resistance to the last degree. Speaking in general two great classes might be considered: The one including those conditions of sudden onset, as traumatic ruptures, mechanical occlusion of the pelvis or ureter, with secondary infection; the second including those in which some grave pathologic condition is active, such as tuberculosis, stone, inflammatory *foci* and malignant growths. In all cases arising under these two heads the prognosis of necessity depends on many and widely different existing conditions of the kidney, the nature of the disease, the general health and resistant qualities of the patient, and, as aforesaid, the presence of and condition of functional activity of the other kidney. Much could be said on the wide possibilities of existing conditions influencing the operator, but each case will become a study in itself and often test the surgeon's skill to the utmost in establishing a satisfactory and rational diagnosis and prognosis.

The operation becomes much more grave when conditions are such that even though the other kidney be absolutely well, nephrectomy is demanded of a kidney which was until the time of operation entirely, or at least in its greater part, functionally active, than in that class of cases when the diseased organ has been only partially or not at all active, owing to the destructive pathologic changes, and the other kidney has for a long time been functioning at least in part compensatorially. The grave systemic disturbances arising from suddenly throwing double duty on the remaining kidney are often of so profound a nature as not to permit of even a gradual compensation. Fortunately, however, statistics show that this class of cases is in the large minority. Those cases demanding individually a long observative and ana-

lytic study are the class affected by some pathologic condition, all of which again are widely different because of the capability of resistance on the part of the patient; the character, stage, location and severity of the existing infection or condition.

The most common and probably of most importance of these is renal tuberculosis. It occurs at all periods of life, instances being found from childhood to old age, though it is most common from 25 to 50 years of life. Text-books in general speak of three classes of renal tuberculosis.

(a) Primary, when it is found primarily in the kidney as an embolic infection.

(b) Ulceration of the pelvoureteral tract.

(c) Miliary tuberculosis with or without secondary lesions in the bladder, prostate, *vesiculæ seminales* or testicles. Secondary, when there has been a primary focus somewhere in the lower genitourinary tract with secondary or ascending infection of the pelvis of the kidney.

Many positive arguments can be brought forth in favor of both classes. Tubercular laryngitis, once similarly regarded as primary or secondary, is conceded now by all best authorities to be always secondary to pulmonary lesions. Statistics based on the observation of from two to 20 years of postoperative progress and the condition of patients who have had a nephrectomy performed for tuberculous kidney show in the first place a surprisingly low mortality. Secondly, even in cases in which the second kidney showed unmistakable evidence of partial tubercular infection for some time after operation with tubercular lesions in the lower genitourinary tract, often requiring later operation such as single or double orchidectomy, patients have steadily improved both locally and in general health, and were apparently entirely well and free from any tubercular lesion years after the initial symptoms.

On the other hand instances of a gonorrheal pyelitis, or of mixed infection secondary to pyogenic organisms, found in urethritis and cystitis, give positive proof of secondary disease.

Even as late as 1881, Gayon, *Annales des Maladies Genito Urinaires*, still defend the then-accepted theory that renal tuberculosis was always the culminating process of a preceding lesion in the lower genitourinary tract. Step by step the train of evidence was formed which brought renal tuberculosis into the realm of surgery by establishing absolute proof of a class of cases in which the process was primary in the kidney. At the present time this class represents the largest percentage of all cases of renal

tuberculosis. Even deducting those cases reported as doubtful where it is utterly impossible to decide which of the multiple tubercular lesions in the genitourinary tract was the primary one, or whether several *foci* of purely hemotogenic origin were not active at the same time, one absolutely independent of the other, there remains a percentage of from 50% to 60% of primary infection.

Taking all suppurative processes in the kidney we find 33 1/3% of a tubercular nature with the possibility that a certain percentage of the remaining 66 2/3 would be found tubercular after a careful histologic and bacteriologic examination. Another interesting fact is that women are predisposed to primary renal tuberculosis in the percentage of 61.5 to 70.

Primary renal tuberculosis without surgical interference will sooner or later affect the lower tract and always attacks the peri-ureteral bladder area, whereas the primary tubercular ulcerations of the bladder are seen at the neck of this organ. Yet the vesical irritation which always accompanies renal tuberculosis may at times be of a simple inflammatory nature, as it disappears almost immediately after the nephrectomy.

Secondary tubercular bladder lesions are by no means a contraindication for operation, for after the removal of the diseased kidney these lesions, unless very extensive, show marked and continued improvement with total recovery in a large percentage of cases.

In reference to bilateral renal tuberculosis the statistics vary from those of Israel of 8.3%, to those of Vigneron of 17%, yet these cases always show the disease much more advanced in one kidney than the other.

The clinical aspect of renal tuberculosis is certainly a widely varying and complicated study. Here, as in all tubercular lesions, we are liable to have exacerbations with marked or entire abatement of symptoms, lasting weeks, months, or even years. Many of the early symptoms are those of a mild cystitis, which if in an early stage will probably apparently yield to treatment until the following exacerbation. One of the earliest and most common symptoms is frequent micturition, usually about double the normal. Marked vesical irritation with half-hourly micturition would lead one to suspect involvement of the ureter or bladder, or both. The irritability, location and number of the tubercular lesions will of course modify the symptoms in each case. Pain is no criterion, for, while the smallest miliary tubercle in the vicinity of the ureteral opening may cause most painful micturition, at times large

areas of tubercular ulcerations will cause but very little suffering. Hematuria appears in almost 24% of the cases, and is often the initial clinical evidence. Examination of the urine alone seldom gives positive results as to the finding of the tubercle bacillus except when vesical lesions abound. Of these 61.5% give positive results.

Albuminuria is either absent or the amount is slight. If in excess of $1\frac{1}{2}$ pro millimeter it is suggestive of either amyloid degeneration or inflammatory disturbance of a tubercular or toxemic nature in the second kidney.

Body temperature again seems to bear a certain ratio to the secondary renal lesions. When the process was limited to the kidney alone, 22.2% were febrile, whereas 80% of those complicated with vesical lesions showed a marked rise of temperature. This fact has been accounted for by the conditions of ulceration favoring the absorption of the pyogenic substances from the infected urine. This is especially noticeable after a cystoscopic examination of a bladder with tubercular ulcerations secondary to a pyelitis. Here again the presence or absence of mixed infection will influence the temperature curve. Body weight is always diminished in proportion to the severity of the local process.

General anemia, irrespective of the temperature curve, is due to the absorption of the tubercular ptomains reducing the hemoglobin as low as 50%. The digestive tract is reflexly affected, being evidenced by loss of appetite, nausea, and at times diarrhea; in fact the whole is a picture of a toxemia of varying intensity.

In making the diagnosis two classes of cases will be encountered: First, the class with pathognomonic evidences, and, secondly, those cases in which only a combination of varied and doubtful symptoms will lead to a probable diagnosis.

The first class embraces all cases of uncomplicated renal tuberculosis with tubercle bacilli in the urine; secondly, those with no bacilli in the urine but with ulcerations of a tubercular character at or in the vicinity of the ureteral opening; and those with multiple tubercular ulcerations of the bladder of large size, which would not admit of definitely establishing the primary focus, in which ureteral catheterization resulting in the detection of bacilli in the urine could alone solve the problem.

The second class of cases embraces those of simple renal tuberculosis with no secondary lesions and with no tubercle bacilli in the urine. With exclusion of the bladder by cystoscopy the cause for abnormal urine will naturally be referred to the kidney.

To establish the process as a tubercular one will in a large

number of cases be extremely difficult, and in a certain percent impossible until the time of operation. The tuberculin reaction may help to a diagnosis, inasmuch as carefully kept records and observations show that vesical irritation is the most common and earliest manifestation. All cases of cystitis, with no plausible source of infection, which do not yield at all or only temporarily to treatment, should make the surgeon suspicious of renal tuberculosis and he should employ all possible means of establishing, if possible, a positive diagnosis.

The malignant tumors of the kidney come under the following heads: Carcinoma, sarcoma, endothelioma, adenoma, papillary cyst and teratoma, arising either from the parenchyma or from the mucous membrane of the pelvoureteral tract. Direct or indirect involvement of surrounding or distant structures may take place in many ways, first, by the growth breaking through the kidney capsule; second, by way of the lymph-glands which accompany the renal vessels; third, thrombi of malignant-tissue growths in the renal vein; fourth, embolic metastases in distant organs; fifth, involvement of the ureter or bladder by means of the urinary flow. Clinically, five factors will help to a diagnosis: first, the presence of a solid tumor of the kidney; second, hematuria; third, pain; fourth, cachexia; and fifth, metastases. Palpation of a solid growth corresponding in position and outline to the kidney will render a diagnosis moderately positive, but usually too late to admit of a permanent cure. Here, again, as in all instances of malignancy, an early diagnosis is essential for permanent results. Of all the symptoms hematuria is by far the earliest, and its periodic occurrence should always lead to a careful search for a renal tumor. In about 92% of malignant growths of the kidney reported hematuria was present and in 70% it was the first symptom observed by the patient and surgeon. There is no definite period in the development of the growth at which one could say hemorrhage is most apt to occur. In fact, in some it makes its appearance when the new growth is as small as a cherry and apparently in its earliest stage; then, again, it is not present until a tumor of considerable size is palpable. The time which has elapsed since the first hemorrhage may be of any length from that of a few days to 11 or 12 years. When blood appears in the urine it at once becomes imperative to determine its source. Blood, when of urethral origin, always precedes clear or at least partially clear urine during micturition; when of vesical origin, clear or slightly turbid urine will precede a much darker and more bloody flow toward the end of micturition. When of ureteral or

renal origin, irrespective of clotting, it is evenly mixed with the urine when it has been lying in the bladder for any length of time. Should, however, evacuation of the bladder be excited by the hemorrhage, the blood would only appear during the latter period of micturition as a blood-clot or mixed with the urine. Cystoscopy would at once eliminate or establish the ureteral or vesical origin unless there were bleeding metastatic growths present in the bladder, which fact might lead to the overlooking of the primary and all-important renal growth. Even after a cystoscopic examination has been the means of establishing the origin of the blood from one or the other ureter, complications of multiple processes, such as tumor on the one side and calculi on the other, might lead to an error in diagnosis. On the other hand, to determine from which ureter or kidney the blood originated could only be proven by a cystoscopic examination made during or immediately after the hemorrhage, that is, while there is still blood escaping from the ureteral opening. This is possible only in a very small percentage of cases, and the diagnosis would always be extremely difficult if the patient could not give valuable aid in locating the seat of the hemorrhage if of renal origin. In from 45 to 50% of cases the tension produced in the pelvis of the kidney or ureter by the quickly accumulating blood produces pain of a colicky nature on the affected side.

The adrenal growths, or hypernephromata, present many varied and widely different structures. On the one hand are those arising from *foci* of adrenal tissue, distributed in the para-renal retroperitoneal space, on the other the connective-tissue type, springing from the kidney capsule itself, or the possible remains of the Wolfian bodies anywhere during their course from the upper border of the adrenal gland to the epididymis or uterus. The first class greatly surpasses the renal growths in malignancy, but differs from them in seldom presenting any symptoms during the developmental stage, the first manifestation often being a metastatic growth. They appear at any time of life from the last weeks of intrauterine growth to old age. Structurally they resemble mostly simple or complex adenomata, developing rapidly and often to enormous size, with clinical manifestations due only to the disturbances produced by pressure on the surrounding tissues and structures. Because of their malignancy they are productive of great emaciation and weakness. Histologically, they present all types of glandular proliferation, adeno, cyst-adenomatous, carcinomatous or sarcomatous growth. The connective-tissue type present a still more

varied and histologically complex group, being composed of one, several or all of the following tissues, lipomatous, fibromatous, myxomatous or myxosarcomatous. They are of much slower growth and of a much more benign nature except those composed almost or entirely of sarcomatous tissue.

Of renal calculi two classes are to be considered, primary and secondary: The first class, in which at least for a time the kidney was entirely healthy during the formation of the calculus which is composed of certain salts or other urinary ingredients precipitated from the urine independently of any preceding change in the kidney or any septic condition of the urinary passages, or of any microorganisms in the kidney. Secondary calculi occur in kidneys which have been the seat of previous disease such as trauma, septic processes, malignancy or of chemical changes, due to microorganisms in the kidney. Many are the varieties resulting from different chemical combinations. From acid urine those of uric acid, urates, oxalate of lime, cystin, or xanthin are formed, and from alkaline urine those of bone earth, acid phosphate of lime or carbonate of lime. The period of formation of a renal calculus very often extends over a number of years. Calculi of but a single composite substance are extremely rare. They are usually found to consist of multiple strata and take their name after the chemical substance making up the greater part of its volume. In regard to the theory of the parasitic origin of renal calculi, microorganisms of various sorts have been found to exist, in pure culture, in the center of the stone, whereas, others have been proved absolutely sterile. Analyses of calculi of multiple strata have shown several microorganisms active either at the same time or at different times during the formation of the stone. The most probable and rational deduction is that the calculi are not the result of the microorganisms themselves, but of the pathologic changes wrought in the infected tissues. From the resulting mucoid, purulent or bloody discharge a nucleus is formed and to this the prevailing urinary salts or ingredients adhere, with a resulting renal calculus. There is only a step between what is termed gravel and a calculus.

Only a mucoid or albuminous substance is necessary to agglutinate small particles, and in this way form the nucleus for a larger stone. They may form in any part of the kidney, in the parenchyma, the calyces, or the pelvis, being most common in the two latter sites. They are most common from the twentieth to the fiftieth year of life, slightly more frequent in the male than in the female, which ratio is vastly different from that of vesical calculus

owing to the greater ease with which the female bladder is capable of throwing off any small calculous material. Sedentary habits, hereditary predisposition to lithiasis, and a rich diet of nitrogenous foods all favor the formation of stones. Uric acid and oxalate of lime stones are the most common. Of these the uric-acid calculus may produce little or no disturbance, because of its smooth surface, whereas, the oxalate of lime stones with their pin-like projections often cause violent disturbances during their early stages of development. Of all symptoms described pain and hematuria are the most significant. The pain is different in character from that caused by ulceration, being colicky in character, of sudden onset, and of a sudden cessation. The paroxysm is brought on by the stone becoming fixed in the pelvis or ureter, in such a position as to cause stasis, congestion and muscular contractions, which continue until its liberation. Between the attacks there is either no pain or only a dull ache in the side affected. Immediately following such an attack hematuria usually occurs, although it may be present without the colic, being due simply to pressure, ulceration or mechanical irritation and congestion. It differs from the hematuria occurring in malignant growths in its association with pain and its constancy. It may be profuse for several days then decrease, but microscopic examination of the urinary sediment will reveal traces of it at almost all times. In mixed infection it is associated with pyuria. Since the advent of radiography much has been done to perfect this means of diagnosis. The difficulties encountered are that different stones give different shadows, resulting from over exposure, constantly varying chemical composition and the density of the calculus. Its gradual perfection will surely add a most valuable aid for the diagnosis of renal calculi in their early stage and as a means of determining which kidney is affected. Of the operations for the relief of renal calculi nephrolithotomy, because it is done in those cases in which an early diagnosis has lead to operation before any destructive changes have disorganized the kidney, gives by far the best results, with a death rate of only 2.9%. As between a nephrotomy or a nephrectomy, the latter operation, although having a slightly higher death rate, 29.4% as against 23.2% in the former, is the operation to be preferred, as the fistula remaining after nephrotomy will eventually demand a nephrectomy. Nephrotomy is to be employed when it is essential to tide patients over a critical stage due to the absorption of pyogenic material from a disintegrated kidney, and when its release will enable him to regain sufficient strength and resistance to withstand the shock of a nephrectomy.

Case I: Mr F., was referred by Dr S., four years ago. He sustained an injury to the left side by being struck with the handle of a windlass. No serious trouble developed until one year later when severe pain appeared in the back, followed by a diminution in the amount of urine. With medical treatment he was able to be up in about six weeks, and improved slowly for a period of four months. In August, 1898, there was a second exacerbation with abscess formation. Owing to the patient's low physical condition a nephrotomy only was considered advisable at this time. From this he rallied nicely. In March, 1899, a nephrectomy was performed. The kidney was almost entirely caseous and had to be literally torn from a bed of adhesions. In May, 1899, the patient left the hospital with only a small granulating point remaining at the site of the incision. A letter from him in April, 1903, finds him in almost perfect health doing farm work, and suffering no trouble with the other kidney.

Case II: Mrs A. B. C., age 46, was referred by Dr G. In the winter of 1899 the patient attended a dance, and became chilled and was confined to her bed for 10 days with what she called "a cold in the kidneys." From January to June, 1900, exacerbations followed rapidly, and at the time of the operation in July, 1900, the temperature was ranging from normal in the morning to 101.5° at night. Tubercle bacilli were present in the urine, together with leukocytes, renal epithelium and hyaline casts. Nephrectomy showed the kidney studded with tubercular deposits, and the microscopic examination revealed multiple tubercles. A report from the patient in June, 1903, reports her as having gained her normal weight, and doing all her own work, even washing, with no inconvenience whatever.

Case III: Mr X. Y. Z., age 48, was referred by Dr S. The patient gave a history of gonorrheal infection 14 years ago, which became chronic and was followed by repeated attacks of cystitis. Since 1899 the patient had suffered from severe pain in the left side, paroxysmal in character and extending down to the inguinal region. The urine was strongly alkaline. A radiograph revealed a calculus in the pelvis of the left kidney. A nephrectomy was performed in June, 1901. A report in June, 1903, finds the patient perfectly well and doing his own work on the farm.

Case IV: Mrs P., age 24, was in excellent health until October, 1900, at which time she was taken with a severe cold. At that time there was severe pain in the back, first on one side and then on the other. There were no urinary symptoms until February, 1901, when pus and blood-corpuscles appeared in the urine. The pain became continuous in the left side with occasional pain in the right side. The temperature in March rose suddenly to 103.5° with chills and severe pain in the left side. Nephrectomy revealed the kidney entirely destroyed and the capsule filled with an immense abscess. For two days after the operation the patient required saline infusions at four-hour intervals, but from that time on she has made an uninterrupted recovery. At the present time

she has regained her normal weight, and but for some functional disturbances of the right kidney after exercise, she finds herself in good health.

Case V: Mr H., age 56, gave a history of renal hemorrhages five and again two years ago. There was constant pain in the left side, becoming paroxysmal in character. The radiograph revealed a calculus in the pelvis of the left kidney with the shadow of the kidney very dense. Nephrectomy, in January, 1903, proved the presence of a carcinoma of the kidney with a large calculus. During the period from January to April the patient gained 30 pounds, and was apparently well. In May, 1903, metastases in the inguinal and retroperitoneal glands became evident. With rapid loss of weight and strength, the patient died in July, 1903.

The Passage of An Open Safety-Pin Through the Intestinal Canal

BY HUNTER H. POWELL, M. D., CLEVELAND

On Tuesday, August 25, 1903, at 7 p. m., I was called in haste to see William W., aged 10, who had carelessly swallowed an open safety-pin. A careful examination failed to reveal the pin



in either the pharynx or the esophagus; it had consequently entered the stomach. As the boy, however, felt no distress, he was ordered abundant food, chiefly potatoes, rice and bread. I directed that he should be kept stuffed with these articles until the pin

was recovered; my directions were strictly obeyed. I informed his parents that I hoped the pin would be recovered by the following Sunday unless it should become fastened in some portion of the intestinal tract. I had, indeed, apprehensions that this might occur; but from past experiences and the reports of others I hoped for a safe passage of the pin.

On the following Sunday, August 30, at 7 p. m., the boy's father came to my office with the pin. He said it had just been passed by his son without the slightest difficulty. The pin is four centimeters in length with quite a stiff spring and makes with the retaining shaft an angle of about 35°. The black enamel coating had been entirely eroded by the intestinal secretions.

This case is reported to illustrate the wonderful possibilities of the average small boy's intestinal canal, and to emphasize the importance in such cases of stuffing and the avoidance of cathartics.

Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

Summer Diarrhea: A. A. Candry in the *New York and Philadelphia Medical Journal* for August 29, states concerning the summer diarrhea of children that as to medicinal treatment of late years less and less importance is attached to drugs. Thorough emptying of the intestinal canal of all pathogenic bacteria, pabulum and irritants is the first indication. For this he gives the following prescription, as soon as the child is under observation, and after milk has been prohibited:

R Calomel	} Each 1 to 3 grains
Sodium bicarbonate	
Sugar of milk		6 grains

Mix and divide into 12 powders and give one every hour for a child one to five years old.

This is followed in three or four hours by one or two teaspoonfuls of castor oil. This purges the child pretty freely and relieves the straining and tenesmus. In many cases this is all that is needed, but should the stools continue to be frequent, bismuth subnitrate in 10-grain doses every hour or two is, he believes, the only reliable drug. Pain, tenesmus, and frequent stools occasioning progressive weakness and exhaustion call for the use of opium. We must be careful with it, however, not forgetting that the intestinal tract is infected and requires drainage, five or six stools a day being necessary. Consequently to reduce the number of stools below that, by the administration of opium, is doing our patient harm. For high temperature, baths at 90° F. gradually reduced to 80° are indicated. Drug antipyretics should be avoided. High temperature, however, indicates absorption of poison, and this may call for elimination rather than for antipyretic measures. Should the stools be infrequent and foul smelling, calomel may again be indicated.

Urotropin: In the *Medical News* for August 29, Warren Coleman reports a case of hematuria and hemoglobinuria following a dose of seven and one-half grains of urotropin. When one considers the extent to which urotropin is administered, the limited number of cases reported in which its use has been attended by toxic effects confirms the general belief in its freedom from such effects, yet the fact that it may prove toxic, perhaps from idiosyncrasy, must not be lost sight of. He further states that individuals vary greatly in their susceptibility to urotropin, Keyes stating that the same patients may vary in susceptibility at different times. Children bear urotropin well, though somewhat smaller doses should be employed. Coleman's conclusions are, First: That the administration of urotropin may be, but is only rarely, attended by toxic effects. Second: That toxic actions (especially strangury) occur with comparative frequency if the urotropin is not properly diluted. Third: That the development

of toxic effects is not always or necessarily correlative with the size of the dose of urotropin. Fourth: That individuals vary greatly in their susceptibility to the action of urotropin. Fifth: That urotropin has been known to produce the following toxic effects: (A) minor toxic actions; (1) irritation of the stomach; (2) diarrhea and abdominal pain; (3) measles-like rash; (4) headache and ringing in the ears; (5) renal irritation sometimes with albuminuria. (B) irritation of the bladder; (1) strangury, the most common of the toxic effects; (2) irritant action on raw surfaces in urinary passages; (C) hematuria and hemoglobinuria. Sixth: That the more important of the toxic actions have been produced by intravenous injections of formaldehyd. Seventh: That the toxic actions of urotropin are due either (1) to special susceptibility to the action of formaldehyd, or (2) to interferences with the usual disposition of formaldehyd in the body, or (3) to the liberation of an unusual quantity of formaldehyd. Eighth: That the toxic effects of urotropin generally disappear completely within a few days after the withdrawal of the drug.

Gelsemium: F. C. Hammond, in *American Medicine*, for August 29, calls attention to the action of gelsemium in the treatment of dysmenorrhea in patients in which repeated careful examination of the pelvic organs fail to show any abnormalities or pathologic lesions. He believes it of especial value in this type of dysmenorrhea, in which ten drops of tincture should be taken three times daily, begun each month seven to ten days previous to the beginning of the flow. In a large proportion of cases this plan of treatment will afford absolute or marked relief. During the past six years he recalls two patients in whom there has been no return of the dysmenorrhea after taking the gelsemium two months in succession, and in one case no return after taking it but one period.

Potassium Iodid and Iron: W. Gilman Thompson, in the *Medical News* for October 3, reports two unusually interesting cases of paroxysmal hematuria occurring in two boys aged respectively 20 and 17 years. In both cases there were evidences which pointed strongly to a syphilitic origin of the trouble, and in Case I, the boy received potassium iodid up to two drams a day during a period of six weeks without benefit as regards his attacks, although he gained during this time 15 pounds in weight. In the second case there was a history of similar attacks at the age of 13, associated with urticarial swelling of the face and hands, and flushing of the face and ears, together with epigastric cramps. Upon admission to the hospital the urine contained blood pigment, a few red blood-corpuscles, indican, a trace of albumin and granular casts. The boy's temperature was 100.2° and the pulse was 68. It is interesting to note that the patient's condition improved rapidly after admission, but that subsequently an attack was

experimentally induced by immersing the patient's hand in water for only two minutes at 60° F. He remained under observation for more than a month during which time his weight rose from 106 to 114 pounds and the albuminuria disappeared. He was treated simply with iron and laxatives. Thompson considers that these two cases are noteworthy for the early age at which the symptoms began, having been first noted at the ages of 3 and 4, and for their long duration, the prominence of urticaria and the probable existence of hereditary syphilis. This observer further reviews very thoroughly the literature of paroxysmal hematuria, summarizing the theories which have originated as to its etiologic cause. It is interesting to note in this connection that the number of hypothesis explaining its origin is legion. This observer submits, in conclusion, that this disease may be defined as a profound neurosis chiefly affecting the vasomotor system and called into activity by exposure to moderate degrees of cold or by muscular fatigue and emotion.

Morphin Derivatives: In the *Therapeutic Monat.* (quoted in *American Medicine* for July 25) Mayor objects to the experiments that have been made concerning the relative toxicity of the various morphin derivatives, as not in any way contributing to the question of their activity on human beings. In the lower animals codein is more poisonous than morphin; in man, the reverse is true. It seems that the toxicity of a member of the morphin group for man may be measured by the rapidity and power with which it lowers blood-pressure and respiratory rate in the first period of poisoning in the rabbit. Proceeding on this supposition he finds that the morphin group divides itself into two classes, on the one hand morphin and heroin which have a powerful action on both blood-pressure and respiration, and on the other hand, codein and dionin which are comparatively feeble poisons. Peronin stands by itself as being a dangerous cardiac depressant; it has no advantage to justify its practical use. Mayor concludes that the order of poisoning for man with these drugs is heroin, most poisonous, then morphin, codein, and finally dionin as the least poisonous. S. Solis Cohen has also called attention to the dangers of heroin (*American Medicine* for August 15). He states that it has all the dangers of morphin salts in general with additional dangers of its own. He has seen suppression of urine and threatening coma follow as small a dose as 1/12 grain, prescribed to check cough or relieve pain. Heroin is one of the most toxic agents of the morphin group. It has its legitimate uses, uncombined in small carefully watched infrequent doses, but not with the idea that it is anything else than a morphin salt.

Guaiacol: H. G. McCormack, in the *Therapeutic Gazette* for August, states as to the use of guaiacol as an antipyretic in typhoid fever that the local use of the drug for the reduction of temperature has proved an effective and safe remedy in his

hands. When he began its use he applied from 15 to 30 drops, but after more experience finds from 5 to 10 drops sufficient. During the past two years the average amount that he has used at a single application was six drops. He usually prefers the right iliac region which is thoroughly cleansed with soap and water, and then dried. A little ether or alcohol is then applied to remove the oil from the skin, and the guaiacol slowly dropped on the surface, and thoroughly rubbed in with the hand for 10 or 15 minutes. The part is then covered with oiled silk or waxed paper. He has found Merck's the only reliable preparation of guaiacol, and the antipyretic effects of the drug last from two to four hours. He has occasionally found chills to follow its use, but he has observed no bad after-effects. Contrary to what has sometimes been stated, he has not found it depressant, and he considers a weak and rapid pulse no contraindication to its use. When the guaiacol does not lower the temperature as desired he has found that by giving a hypodermic injection of 1/100 grain of nitroglycerin, just prior to such application, the action of the drug is much more prompt and certain, requiring a less amount than when the nitroglycerin is not used. If the reduction of temperature is too great, or should an alarming chill occur, he controls these conditions by a hypodermic injection of 1/150 grains of sulphate of atropin. He has been much pleased too with the reduction of temperature following the use of the drug hypodermically, using two to four minims at a time diluted with an equal amount of alcohol injected deeply.

Anesthesin: Another local anesthetic, anesthesin, is reported by S. E. Earp in the *Lancet Clinic* as of decided value. In ointments it will not undergo decomposition and is said to be non-toxic, yet if an untoward result followed it would probably resemble that due to phenacetin to which it is closely related. It may be given in doses of four to seven grains, and it is said that three times the maximum quantity indicated has not produced any toxicity. Dr Earp reports several cases of gastritis and gastric disturbance which were readily relieved, and its use locally in the form of ointment gave great relief from pain in external hemorrhoids. He has also found it of value in diseases of the nose and throat by insufflation, and believes that it will probably prove of permanent merit.

Adrenalin: In *Medicine* for April, T. B. Campbell reports a number of cases in which uterine hemorrhage was relieved by the administration of adrenalin chlorid by the mouth. In one case there was a uterine fibroid accompanied by profuse hemorrhage in which ergot and hamamelis were given, but with no improvement. Fifteen-drop doses of the adrenalin chlorid solution were then prescribed which was followed by marked improvement.

The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and
THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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EDITORIAL

The Coagulation-Time of the Blood

The coagulation-time of the blood has been considered of practical value in certain diseases, such as continued jaundice and in the peculiar condition known as hemophilia, when surgical measures are under consideration. The great difficulty in its practical application, however, has been the lack of uniformity in the results when tests are made even in the same subject and within short periods of time.

Pratt (*Journal of Medical Research*, August, 1903) has investigated the question and finds that the discrepancy in the results is not due to the different instruments used, but that such small details as aiding the flow of the blood by pressure or allowing the first drop to coagulate and testing the second make a decided difference, and that even the nature of the wound caused a variation in the coagulation-time; thus blood from a deep cut with a free flow required a longer time than that from a superficial wound. A difference of from two to nine and one-half minutes was noted in different specimens taken from the same

individual within half an hour; no constant change was found between ill and normal subjects.

An attempt to determine the influence of the blood-plates upon coagulation was also made, the ratio of the plates to the red blood-cells was found to vary very widely, although in certain cases it remained fairly constant; the conclusion was reached that the coagulation-time is determined neither by the number of plates nor by the presence of a certain amount of coagulation-producing substance derived from them.

The Cost of a Filtration Plant

In view of the urgent demand for a pure water-supply for our city, and recognizing the far greater economic value accruing as the result of pure water over and above that possible through the agency of a municipal lighting-plant, the figures for such a filtration system as would be necessary in Cleveland are not without interest.

Fortunately we are able to give with approximate accuracy the cost of such a plant as we most urgently need by comparing our situation with that which confronts our sister city of Pittsburgh and by noting the estimates arrived at for the latter city and published in the *Engineering Record* for September 19, 1903. The present population of Pittsburgh is given as 360,000, and the average daily consumption as 90,000,000 gallons, which is equal to 250 gallons per inhabitant per day. Plans and estimates were therefore made on the basis of a plant of an average daily capacity of 90,000,000 gallons with a total capacity of 135,000,000 gallons, allowing for a maximum demand fifty percent in excess of the average and for filters out of commission for cleaning or other cause.

The proposed plant includes 45 covered filters of about one acre each at a rate of 3,000,000 gallons, sedimentation basins, two covered reservoirs, the necessary high-service engines, 40% of the meters required, and the necessary land. The total cost embracing engineering expenses and contingencies is put at \$7,152,000. By 1910 it is expected that the meters necessary to complete the equipment can be set, and that this will reduce the per capita consumption to 150 gallons. It is estimated that this equipment will supply the demand until 1925.

May the city fathers take notice, and may we renew our plea for pure water! If we must have a municipal lighting-plant, may a penetrating ray or two enlighten them that continue to sit in darkness and drink unfiltered water!

The Classification of the Causes of Death

Through the courtesy of the United States Census office, we have received a copy of the manual of International Classification of Causes of Death which marks an epoch in the history of vital statistics in this country, and lays every worker in this field under obligation to Dr Wilbur and the Department for the preparation and publication of this really important work.

Anything which tends toward the simplification and at the same time a systematic classification of any department of vital statistics is of immeasurable value in our rapidly growing country. And, though we regret to admit it, it is probably true that in no branch of registration has there been greater room for improvement, or, to put it more plainly, more glaring inaccuracies than in the classification and registration of deaths.

In the preface of this manual Mr King, Chief Statistician for vital statistics, well says "that by its general employment uniformity will be accomplished as in no other way; and, further, that this is more to the purpose than absolute correctness in the assignment of each individual cause of death."

It is gratifying to note that this international classification has been adopted by all the registration states, by many of the nonregistration states and by almost all of the registration cities for their local statistics. Its general extension and widespread adoption is but a matter of time, and it is indeed a happy augury for vital statistics in the United States.

Renal Metabolism in Pregnancy

There is, we venture to assert, no single problem in medicine of more vital interest and importance to the general physician than the toxemia of pregnancy. Every observation which may throw additional light on this complex subject is of great scientific as well as practical value. Among the most recent and notable contributions to this subject is the study of the changes in the urine in pregnancy and puerperal eclampsia by Whitney and Clapp. (*American Gynecology*, August, 1903.) After a brief historic introduction in which these observers show that the drift of opinion is in favor of the theory of autointoxication as against that of a retention toxicosis, they take up in great detail the analysis of the urine from three normal nonpregnant individuals in comparison with four cases of normal pregnancy, one showing the toxemia of pregnancy, and four cases of eclampsia. A careful study of the resulting figures given by these observers will

prove extremely interesting. Among the most striking points brought out by the analyses is the fact that during pregnancy there is an unmistakable tendency toward a lessened output of urea nitrogen together with a slight increase in that of ammonia nitrogen as compared with the nonpregnant condition.

In the pathologic group they show that the essential change in the urine of eclamptic women consists in a decrease in the percentage of nitrogen eliminated as urea together with an increase in the amount which is precipitated by phosphotungstic acid.

Admitting freely our lack of knowledge as to the cause of alteration in metabolism which characterizes eclampsia, these observers advance the suggestive theory that in some instances it may be due to a relative insufficiency of the hepatic function; or, again, it may be attributed to some digestive anomaly of the placenta or uterine wall, and in still other instances to some abnormality in the metabolism of the fetus.

Whether or not the urinary changes found by these workers are constant in all cases of eclampsia remains to be determined by further observation. In any event, the work accomplished in this series of careful analyses must always remain a high standard for similar observations along this line.

A Notable Publication in Neuropathology

It is somewhat surprising to observe that Volume II of the *Archives of Neurology* has not been more extensively noticed. This volume, published for the Asylums Committee of the London County Council, emanates from the Pathological Laboratory of the London County Asylums, Claybury, Essex, and is the organ of this laboratory, edited by the director, Frederick Walker Mott. It may be regarded as the report of this laboratory for 1903. It consists of 862 pages, besides the introduction, 25 plates, many figures, and contains 10 distinct articles by Dr Mott and his coworkers. The first contribution by Mott on "Tabes in Asylum and Hospital Practice" makes a complete monograph on locomotor ataxia, dealing with the clinical and pathologic features of this affection, illustrated by a remarkable series of 74 typical and carefully-studied cases, with 30 autopsies and an exhaustive study of the material thus obtained. It is one of the most valuable treatises upon this disease that has ever appeared in English, and by far the most thorough exposition of its pathology viewed from the most modern aspects; and contains valuable information for any physician interested in this malady whether from the standpoint of a specialist or general practitioner,

no matter whether he does or does not accept Mott's conclusions as to the pathologic identity of tabes and paresis, and as to the etiologic rôle of syphilis in both. The other articles are excellent contributions to general and neural pathology and to medicine, and several of them display evidence of laborious and painstaking research.

Were any additional evidence required, this volume would bear convincing testimony to the wisdom of those who projected and established the Pathologic Laboratory of the London County Asylums. It stands as a permanent and irrefutable argument in favor of the laboratory method of approaching the medical problems presented in public institutions for nervous and mental diseases. What has been accomplished by Dr Mott and his associates at Claybury should serve as an added incentive to the workers in the comparatively few central laboratories connected with public hospitals for the insane, feeble-minded, and epileptic. It should furnish a profitable theme to be employed by those who, like the Committee on State Pathological Institute of the Ohio State Medical Association, are striving to secure the establishment of additional central laboratories as part of the State Hospital systems of Ohio and other States. Contrasted with the large sums of money expended for the maintenance of the London County Asylums the few thousand pounds that have gone to create, equip, and conduct Dr Mott's laboratory are insignificant. But how vastly superior in promise of ultimate benefit are the results of these bedside and laboratory researches which serve to illuminate the problems surrounding the etiology of several obscure diseases, and, in the case of two of them, plainly to indicate the trend that preventive measures should take!

A New Journal

We have to acknowledge the receipt of the first number of the *American Journal of Orthopedic Surgery* which is to be published quarterly under the auspices of the American Orthopedic Association. It will replace the transactions of the Association and in this respect represents a continuation of them, Volume 1 when completed constituting Volume 16 of the Transactions. The Association is to be congratulated on its choice of editors who in turn are to be congratulated on the makeup of this new quarterly. The fact that it is the official organ of the Association is endorsement of the character of the articles appearing in this new journal.

Journalistic Courtesy (?)

The following letter from Dr Alfred Friedlander, of Cincinnati, explains itself:

"Editor CLEVELAND MEDICAL JOURNAL,
Cleveland, Ohio,

Dear Doctor—I am just in receipt of a set of reprints of my article on "Rheumatism in Childhood," which appeared originally in the CLEVELAND MEDICAL JOURNAL. I see from these reprints that the article has been reprinted in the September number of the "*Pediatrics*." I wish to say to you that this was done without my knowledge or consent, as I had told you that I was sending you the article for the exclusive use of your JOURNAL. I shall be glad to know from you whether any permission had been obtained from you.

Very sincerely yours,

(Signed) ALFRED FRIEDLANDER."

Examination of the September issue of the journal called *Pediatrics* shows that it has republished verbatim Dr Friedlander's paper on "Rheumatism in Childhood," which was published in the July issue of this JOURNAL. This in itself would not have been so reprehensible had it not been done without any attempt to secure the permission either of the author of the paper or of the editor of the JOURNAL. To make matters still worse, *Pediatrics* gave no credit to the JOURNAL from which it purloined the article. After publication of the stolen paper, *Pediatrics* made a feeble attempt to "square itself" with the author by sending him free of charge some reprints that it hoped he would distribute among his friends and thereby advertise *Pediatrics* as the paper in which he published his article. Rarely is seen so labored an effort to prove title to stolen property.

It is to be hoped that *Pediatrics* does not secure all its so-called "original" articles in the same way. If it does, its subscribers might well drop it from their list. Such action would cause no widespread ripple in the medical world. Other journals can only protect themselves from such piratical methods by taking advantage of the United States copyright law.

Dr Jekyll and Mr Hyde

Were it not for the associated implied odium, the subject of Stevenson's familiar tale might well be applied to a figure now only too familiar to many of us; and if we may carry the analogy further there is a something not unlike the original character in

the shrewd way in which this latter-day double escapes the hand of justice.

Dr Cooper on the streets with an electrically lighted band-wagon and a full-fledged band, parading almost daily, becomes, in the local court, simple Mr Cooper selling medicines.

It is worse than a travesty on our laws that there seems to be no way to reach the dual-headed vendor of patent medicines who can thus play whatever rôle he will. If there is any virtue in the present statutes, can they not be made to reach the advertiser who thus uses for trade purposes, if for no other reason, the title of "Doctor"?

According to Taylor (*The Law in Its Relation to Physicians*) the selling of patent medicines by one who does not pretend to diagnose a disease is in no way a violation of an act prohibiting the practice of medicine and surgery; yet if one examines patients, diagnoses their maladies and then prescribes or sells his own proprietary remedies he is practicing medicine. As far back as 1831 the Supreme Court of Ohio held that prescribing and administering medicine to two people for a fee shows the party to have acted in the capacity of physician. (*People vs. Phippin*, 70 Mich., 6; 37 N. W. Rep., Taylor *loc. cit.*)

Is it then not in this vending and prescribing of proprietary medicines a clear violation of the law, and cannot some steps be taken by the Academy to prevent it and similar impositions on a guileless public?

A Wail from Egypt

The *Medical and Drug Journal Advertiser* for September quotes an unnamed monthly medical journal as asking of the *Journal of the American Medical Association* the following questions:

- “1. What are the necessary expenses of the Association?
2. What are the necessary expenses of the *Journal*?
3. What is the actual income from members of the Association?
4. What is the actual income from subscribers not members?
5. What is the actual income from advertisements?
6. What disposition is made of the balance of the funds?
7. Why does the Association enter into competition with other medical journals, if it is not really necessary and may do harm?”

The Association *Journal* needs no defense, and is under no

obligation to answer these queries. The questions raised, however, are of some general interest and so will bear comment.

The first six of the seven propounded queries can readily be answered by reference to the widely published and fully detailed reports of the Trustees of the American Medical Association, and it is surprising that any editor should ask questions so readily answered by reference to public documents. The motive behind such a procedure is not clear.

The seventh question contains "the milk of the cocoanut." The medical profession, organized as the American Medical Association, publishes a weekly medical journal on the cooperative plan. Every member has an equal interest in it. Every member of a county medical society can acquire an equal interest in it. It earns some profit, every cent of which goes to some good professional purpose. It is a splendid monument of what the medical profession can do for itself.

In some quarters it has been charged more or less openly that the *Association Journal* cuts its advertising rates very materially when in competition with other publications. This is a subject for investigation by the Trustees. If such a practice is followed it should at once be stopped. As to this there can be no argument, and if true it is purely an error in business management reflecting not at all upon the wisdom of the profession maintaining a journal and reaping a good profit from its operation.

As the *Association Journal* has prospered there has been a corresponding decline in the receipts and subscription lists of the publications put out by business firms endeavoring to reap a profit from the medical profession. One large weekly has seen its subscription list in a few short years shrink from a boasted 12,000 to some 5,000. This process has been hastened by the foundation and successful operation of the profession-owned *American Medicine*. The little papers, published in the interest of some proprietary remedy or to advertise some doctor who else would never be heard of, very naturally feel keenly the prosperity of the journals owned by the whole profession and conducted in its interest. From such comes the plaintive wail that appears in the *Medical and Drug Advertiser*. Almost every assertion made therein is open to question, and really they are hardly worth notice, as the medical profession of America has quite definitely decided to continue the publication of its own journals. Commercial houses that place themselves in opposition cannot expect to emerge first best from the fray. Such articles as that in the *Medical and Drug*

Advertiser, if seen by physicians, are well calculated to concentrate professional effort in support of professional journals.

Some Odd Statements

In the article above mentioned the *Medical and Drug Advertiser* makes some interesting and curious statements. It mentions "a growing dissatisfaction amongst medical editors" as to the "rapid and phenomenal success of the *Journal* of the American Medical Association"! It is not so uncommon as to be noticeable that one finds "dissatisfaction" amongst disappointed competitors in any walk of life. We are told that "some of the older and wiser members" of the Association opposed the foundation of the *Journal*. It is not unnatural that a trade publication should speak of the opponents as "wise," but the whole medical profession takes a very different view and looks back with pride at the far-seeing wisdom of those who led the Association in the path of prosperity, power and influence. At this late day to question the wisdom of founding the *Journal* is to ignore all the patent facts of the case and to run directly counter to professional opinion.

No doubt commercial interests, seeing their former profits from dealing with physicians now going into the pocket of the profession itself, may endeavor in more or less covert way to arouse dissatisfaction with the Association *Journal*. Members must be on their guard against such attempts. If any details of the business management of the *Journal* are being wrongly handled all can feel sure that merely upon their mention the Trustees and the House of Delegates can be depended upon to set them again straight.

The little *Advertiser* above quoted then says: "It is now claimed that the Association is improperly and unprofessionally accumulating a large amount of money, and that there is a growing temptation to use this surplus in the manufacturing of anti-toxins, specialties, and in selling tablets, or in subsidizing some favorite preparations."

Here indeed are charges of very unpleasant things, and leveled against the Association itself. Those who are familiar with the Association's work know that they are utterly baseless calumnies. Were they true they would be no disgrace. The medical profession, organized, has a perfect right to go into any business that it pleases. Misrepresentation will never check the onward march of the organized profession. Those who attempt to malign professional effort are hardly putting themselves in

good position for future events. Every sane physician knows that there can never be anything "unprofessional" in a medical society making a profit for its physician members by manufacturing articles needed by the members. As to whether such an enterprise at any given time would meet the test of expediency is quite another matter, to be settled when occasion arises.

It is very kind of our outside and most generous friends to tell us that the "older journals made the American Medical Association," but as the facts of history may not be altered by any "*Advertiser*" no further notice need be given to this melodramatic and amusing wail from the outer darkness of pseudomedical commercialism.

Book Reviews

The Practical Medicine Series of Year Books. Comprising Ten Volumes of the Year's Progress in Medicine and Surgery. Issued Monthly under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume V, Obstetrics, Edited by Reuben Peterson, A. B., M. D., Professor of Obstetrics and Gynecology, University of Michigan. The Year Book Publishers, 40 Dearborn St., Chicago, Ill. Price, Cloth, \$1.25. April, 1903.

This book presents a summary of the important contributions to obstetrics for the past year, the subject-matter is systematically arranged and the references are always given so that the original article may be readily found. This volume is supplementary to that of last year's series dealing with obstetrics, and certain subjects which are discussed at some length in the one receive less consideration in the other. The work is especially valuable to busy practitioners who wish a synopsis of the recent work, but have not time to read the articles in detail. The appearance of the book is neat and attractive.

Practical Points in Nursing. For Nurses in Private Practice. With an Appendix containing Rules for Feeding the Sick; Recipes for Invalid Food and Beverages; Weights and Measures; Dose List; and a full Glossary of Medical Terms and Nursing Treatment. By Emily A. M. Stoney, late Superintendent of the Training School for Nurses, Carney Hospital, South Boston, Mass. Third Edition, Thoroughly Revised. Handsome 12 mo. of 458 pages, fully illustrated, including 8 colored and half-tone plates. Philadelphia, New York, London. W. B. Saunders & Company. 1903. Cloth, \$1.75 net.

The continued popularity of this little volume has placed the publishers under the obligation of keeping it abreast of the times and of making it reflect the latest advances in the progressive profession of nursing. The revision has been extensive, almost every page showing evidences of careful scrutiny. Among

a number of similar works this volume has maintained an unusually high standard, and in many ways is unexcelled for the clearness and terseness with which the subject has been presented. On the other hand, there is present, in many different parts of the text, a certain unnecessary verbiage, the absence of which would add much to the clearness of the particular paragraphs concerned.

The advice given throughout is in general excellent, and it is perhaps not surprising that there are here and there occasional slips of judgment in describing certain measures. To cite a single instance on page 210 under the subject of vomiting, the text reads, "To relieve vomiting, a mustard plaster or an ice poultice over the stomach, is very good. If the vomiting is caused by constipation, a Seidlitz or a Rochelle powder would generally stop it;" surely an extraordinary if not confusing bit of advice. On the whole we are glad to recommend this work. Its mechanical makeup is excellent.

The Practical Medicine Series of Year Book, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume II, General Surgery, Edited by John B. Murphy, M. D., Professor of Surgery, Northwestern University Medical School. November, 1902. The Year Book Publishers, 40 Dearborn Street, Chicago. Price of Volume II, \$2.00. Price of the Series, \$7.50.

The name and teachings of John B. Murphy are too well known to require any special introduction relative to this work. The Editor of the Series of Year Books is to be congratulated on having procured the cooperation of so able and thorough a scholar as Dr Murphy inasmuch as very few other writers possess the invaluable faculty to the same degree of conveying ideas to the reader in so clear and direct a manner and with the use of so few words. This work comprises practically a resumé of all the later developments in surgery, a review and condensation of many valuable papers and statistics, including those of the Spanish and South African wars. The treatment of definite pathologic conditions along definite lines receives the consideration due it at this advance stage of surgery, while the achievements in the newer fields, such as surgery of the pancreas, kidney and nervous system, is ably handled. If the reader is looking for new things in surgery which deserve a place in the future text-books he will find them in this little book, since no effort has been spared in going over the latest literature on the subject and collecting that which it would take the general practitioner months to bring together. It is well indexed (a valuable adjunct to any work), has 50 illustrations and contains 553 pages. The illustrations are new but it cannot be said that the work is profusely illustrated. Essentially meant for a book to refresh the mind of the busy practitioner as well as one of reference, it would appeal to the former more readily than to the medical student for use as a text-book. If Vol-

ume II may be taken as a criterion, then the series of ten will prove invaluable as a compilation of all the latest literature both in medicine as well as surgery.

Manual of the Diseases of the Eye. For Students and General Practitioners. By Charles H. May, M. D., Chief of Clinic and Instructor Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York, 1890-1903; Ophthalmic Surgeon to the French Hospital, New York; Consulting Ophthalmologist to the Red Cross Hospital, New York; Adjunct Ophthalmic Surgeon to Mt. Sinai Hospital, New York, etc. Third Edition, Revised. With 275 Original Illustrations, including 16 Plates, with 36 Colored Figures. New York. William Wood & Company. 1903.

This volume of 408 pages, which is now in its third edition, is a compact and explicit treatise. The author states in the preface that "Every page has been carefully examined, and a considerable number of alterations and additions have been made; some new illustrations, including three plates, have also been added. The volume has been kept up-to-date, but has not been increased in size, the original plan of presenting a book for the student and general practitioner having been adhered to."

Obstetrics, a Text-Book for the Use of Students and Practitioners. J. Whitridge Williams, Professor of Obstetrics, Johns Hopkins University; Obstetrician-in-Chief to the Johns Hopkins Hospital, Baltimore, Md. With 8 colored plates and 630 illustrations in the text. D. Appleton & Co., New York and London. 1903.

Among the already considerable number of text-books which have appeared from the Johns Hopkins University, this last contribution to the science of obstetrics more than maintains the high standard which we have come to expect in any work bearing this imprint on its title page. It is, indeed, refreshing to find in a work on this subject that, after all, the progress which has been made all along the line in medical research has had its influence here, and that we are no longer bound by traditions to certain established routine practices in the face of every obstetric emergency.

Dr Williams' teaching upon the treatment of puerperal infection is, indeed, a relief after the time-worn instruction in reference to curettage.

Among other things, the subject of the elimination of urea and its import is, happily, considered more fully than falls to the lot of the average text-book, and it is comforting to note that this author considers that its importance as an index of danger depends in a large measure upon the accompanying presence or absence of albumin in the urine.

The text throughout is so unusually clear, and gives in such detail the steps necessary in every operation of the obstetric art, aided by the illustrations which add so much to the volume, that it approaches more nearly the ideal substitute for practical work

than any similar volume we know. It would, indeed, be unfair to omit any specific allusion to the illustrations with which the text abounds for they are—in the truest sense of that word—teaching illustrations, making so plain every step that we could not ask a more graphic description of the methods of procedure.

An unusually complete index concludes the volume, and the press-work, paper and binding all combine to make this the most valuable text-book upon obstetrics which has yet appeared in English. Dr Williams is to be congratulated on having produced a work so eminently scientific and at the same time so thoroughly practical.

Lea's Series of Pocket Text-Books. *Anatomy, a Manual for Students and Practitioners*, by William H. Rockwell, Jr., M. D., formerly Assistant Demonstrator of Anatomy in the College of Physicians and Surgeons, Columbia University, New York. Series Edited by Bern B. Gallandet, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated with 70 Engravings. Lea Brothers & Company, Philadelphia and New York.

This work is not to be classed nor compared with the so-called quiz compends as it is a small text-book complete except as to detail. It should appeal very strongly to the medical student as a book to be used in review work especially since it comprises everything contained in the larger and more elaborate works on anatomy, but stated as briefly and concisely as possible. Gray's anatomy is followed as closely as possible so that the student may avoid the confusion often experienced in using a manual for review which is not in harmony with the larger and more exhaustive text-books to which he has been accustomed. The author's sole desire in placing this book before the public has been to provide a manual which was fairly complete and compact and which followed closely the order laid down by the principal text-book in use among the present generation of students, yet not intending to replace it. It is handsomely bound in red and gold, contains 620 pages and is completely indexed.

An *Epitome of Physiology for Students and Practitioners of Medicine*. By Theodore C. Guenther, M. D., of the Norwegian Hospital, Brooklyn, and Augustus E. Guenther, B. S., formerly Assistant in Physiology in the University of Michigan, Ann Arbor. In one 12mo. volume of 250 pages, with 57 engravings. Cloth, \$1.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1903.

This book is a concise summary of the essential facts of physiology. Its scope is hardly sufficient for a text-book and a bald statement of facts must often suffice where a large work could devote space to explanatory details. Its especial value would be to the student in reviewing his work or to the practitioner as a handy reference book. The series of questions at the end of each chapter fulfills one of the features of a "quiz compend."

First Principles of Otology. A Text-Book for Medical Students. By Albert H. Buck, M. D., New York City. Second Edition. William Wood & Company. 1903. New York.

This little book is presented as a manual for the use of undergraduate medical students, and treats very concisely the fundamental facts and theories relating to diseases of the ear. The etiology, pathology and symptomatology of the various pathologic conditions are discussed very clearly, but the sections devoted to treatment are frequently lacking in the clearness and definite instructions which medical students require. Such statements as "some suitable oleaginous preparation should be applied in eczema" and "remove the cerumen with a curette and angular forceps" and "a very good idea of the condition of the Eustachian orifice may be obtained by digital exploration through the mouth" are only a few of many examples where the author seems to have forgotten that the book is intended for inexperienced medical men.

The Practical Application of the Röntgen Rays in Therapeutics and Diagnosis. By William Allen Pusey, A. M., M. D., Professor of Dermatology in the University of Illinois; and Eugene W. Caldwell, B. S., Director of the Edward N. Gibbs X-Ray Memorial Laboratory of the University and Bellevue Hospital Medical College, New York. Handsome octavo volume of 591 pages, with 180 illustrations, nearly all clinical. W. B. Saunders & Co., 1903. Cloth, \$4.50; Sheep or Half Morocco, \$5.50 net.

The remarkable progress which has been made in the practical use of the Roentgen rays as a diagnostic and therapeutic measure has led to a voluminous literature on the subject, much of it so difficult of interpretation that it were in vain for any one individual to endeavor to assimilate it.

That such a task is made wholly unnecessary by the appearance of this volume, lays every worker in this field, as well as the general physician, under a deep obligation to the two authors of this work. The subject has been considered under the two divisions of diagnosis and therapeutic action. Every necessary step in the practical application of this agent is described in such detail that no single point has been overlooked. The section devoted to the subject of diagnosis by Caldwell is a clear and interesting description of all the apparatus necessary, the way in which it should be set up, and the proper methods of use; even including a chapter on radiography and the necessary photographic solutions and manipulations. The section devoted to therapeutics is by Pusey whose work is so well known, and it is enough to say that those who may turn to these chapters for information and for help are not liable to be disappointed. The volume represents essentially all that is known at the present time of the practical application of the Roentgen rays in medicine, and is a work which cannot fail to be of great value to the general physician as well as to the specialist. The illustrations, of which there are many, are excellent; the publisher's imprint is a sufficient indorsement of the mechanical makeup of the volume.

Medical News

H. C. Parker of this city has returned from his trip abroad.

C. A. L. Reed, of Cincinnati, is spending a few months in Europe.

Amos Sherk has decided to leave Frankfort and locate in Rawson.

Lillian G. Towslee will lecture this year on Physiology and Hygiene at the Woman's College.

Henry A. Becker and Charles C. Stuart, of Cleveland, have removed to 105 The Lennox Building.

S. H. Large has removed his office from the New England Building to 536 Rose Building, this city.

Drs Lueke and Cudell, who met such an untimely fate last month, were placed side by side in the same grave.

Charles L. Hamilton, of Columbus, has been confined to his house on account of illness during the past few weeks.

R. B. Hubbard has been elected physician at the Children's Home in Sandusky, to succeed the late F. W. Morley.

Applications for the position of district physician, under the new plan, are being filed by the score in Cleveland. The increased salary is the cause of the scramble.

S. H. Graham, of Royalton, brought suit against the trustees of the township for the nonpayment of a bill for services rendered a smallpox patient at the request of the trustees.

The highest point in Ohio is near Bellefontaine, is one mile square and is 1540 feet above the sea. This would make the above locality the most feasible one for the establishment of a consumptive sanitarium in the State.

Nathan Rosewater is back from Berlin after a three months' absence. He was taking in courses in gastrointestinal diseases. He has purchased the property where his office has been, 1351 Willson avenue, which he has fitted up for both office and residence.

The Columbiana County Medical Society met at Lisbon. A paper was read by J. S. Campbell, of Wellsville, on "Burns and Scalds." A clinical case was presented by A. B. Holland, of Wellsville. The meeting was well attended and a number of new applications for membership were received.

The National Dental Association at the recent meeting, held at Asheville, N. C., adopted the following resolution: Resolved, that it is the sense of the National Dental Association that each Medical College in the United States should include in its curriculum a lectureship on "Oral Hygiene, Prophylaxis, and Dental Pathology."

The Columbus Academy of Medicine met early in September, and the following program was presented: "Water-bourne Diseases," J. H. J. Upham; "Chemical Analyses of Columbus Water-Supply," Prof E. G. Horton; "Bacteriologic Analysis of Present Water-Supply," H. C. Fraker; "What is our Present Water-Supply," Supt. O'Shaughnessy; "What is Efficient Filtration," R. Winthrop Pratt; "Sanitary Control of Water-Shed," C. O. Probst; "What Should Physicians Advise Regarding the Use of Hydrant Water," J. W. Clemmer.

The one hundred and twenty-eighth quarterly session of the Union Medical Association of Northwestern Ohio was held at Massillon. The program was as follows: "Pelvic Peritonitis in the Female," R. E. Skeel, Cleveland; "The Present Status of Prophylaxis in Pneumonia," J. F. Kahler, Canton; "The Diagnosis of Infections of the Accessory Sinuses of the Nose," J. M. Ingersoll, Cleveland; "Some Reasons Why the General Practitioner Should Treat the Eye, Ear, Nose and Throat," J. P. DeWitt, Canton. Under the head of report of cases the following physicians gave short addresses: F. C. Reed, Akron; G. E. Gardner, Doylestown; R. A. Smith, Ghent; F. M. Miller, Wadsworth; E. O. Morrow, Canton; M. D. Stevens, Akron.

The new Mt. Sinai Hospital of Cleveland formally opened its doors recently under the auspices of the Jewish Women's Hospital Association. The new Mt. Sinai Hospital is situated at 183 Forest street, well away from the car line, is surrounded by large, well-kept grounds, and is well equipped to care for 35 patients in the private rooms and wards. It is strictly non-sectarian, admitting all except contagious diseases. The staff has been made a large one purposely and presents the following names: Surgeons: George W. Crile, Frank E. Bunts, Carl A. Hamann; Gynecologists: Marcus Rosenwasser, Walter Lincoln, and Oscar T. Thomas; Orthopedic Surgeon: Walter G. Stern; Eye, Ear and Throat: William E. Shackleton and J. Stotter; Pediatrics: Dr Lueke and J. C. McMichael; Dermatologist: S. Reigelhaupt; Internal Medicine: A. Peskind, A. Friedman, E. Rosenburg, A. F. Maschke, J. C. Steuer, Dr Robecheck, D. Heimlich, Dr Kaplan, J. Proppe, Dr Budwig, and M. Metzenbaum; Nervous Diseases: M. Lowenthal and I. Belkowsky; Obstetrics: S. L. Bernstein; F. E. Bunts, President, and Walter G. Stern, Secretary.

Death

S. B. Potter, for years one of the prominent physicians of Fredericktown, died recently.

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A Few Remarks Concerning the Surgery of the Biliary Passages

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The surgery of the biliary passages is far from being perfected. So much has already been determined regarding questions of diagnosis and treatment, that renewed experience presents a great diversity of conditions, either unrecognized hitherto or viewed from a standpoint entirely different from the present one. It is only very recently, for example, that I found, in an apparently simple case of gall-stone colic, a very extraordinary and inexplicable complication; and one for which I cannot even imagine an adequate explanation. The patient, aged 21, was seized nine weeks after confinement with a violent attack of typical biliary colic of short duration. A second and third attack soon followed, and for a fortnight there were similar ones frequently repeated. The diagnosis of gall-stones seemed absolutely clear. At the exploration, made April 12, 1903, the gall-bladder was found to be distended by small stones,—some 350 in number. These were easily removed, but not until I had discovered a singular complication. Beginning at the head of the pancreas, apparently a part of it, and running upward along the inferior cava as far as I could reach, was a hard, nodular, narrow, flattened tumor. This tumor was retroperitoneal; it involved neither duodenum, pylorus, nor liver. It felt precisely like cancer, but that diagnosis seemed out of the question, not only on account of the patient's age, but on account of the shape, size, and situation of the tumor. Its position in connection with the head of the pancreas suggested a pancreatic origin, possibly dependent itself originally upon gall-

stones or upon gall-stone complications. The combination was, an inexplicable one, so extraordinary indeed that I find it hard even to suggest an explanation. It is quite possible that there was no connection whatever between the gall-stones and this tumor; and yet the one may have been the direct result of the other. Whatever the connection, however, it can be determined only by the death of the patient and an autopsy, a contingency which I do not expect. Indeed, I look forward to that complete restoration to health which is so inexplicable after cholecystotomy for gall-stones associated with chronic enlargements of the pancreas.*

Time and again in recent years I have found the head of the pancreas enlarged, hard, at times almost cartilaginous, associated with changes in the gall-bladder, and usually with gall-stones somewhere in the biliary tract. The condition of the pancreas in the earlier cases supposed to be cancerous, but in the latter to be inflammatory, I have attributed to lesions expressed perhaps best by the term *chronic pancreatitis*. Whatever lesions may have been found in the cases of others, in mine there has been no opportunity to determine, even approximately, what these changes in the pancreas mean, for the patients have all recovered perfectly and thus far permanently. That this condition of the pancreas is connected with abnormal conditions of the biliary passages, seems to me reasonable, especially in view of the extraordinary success which in such cases follows temporary drainage through the gall-bladder. I have found these changes in the pancreas under no other abdominal conditions, although I have for some years made routine examinations of the abdominal viscera whenever the patient's general condition has justified this slightly increased exposure.

The frequent association of abdominal pain with old and extensive adhesions, themselves apparently due to long-continued irritations of gall-bladder and ducts, is one of great interest, in view of the wonderful benefits which sometimes follow the correction of the adhering and misplaced viscera.

Obscure symptoms, even if not dependent upon diseases of the gall-bladder and ducts, are almost certain to be caused by lesions of other viscera in the right upper quadrant. Some of these lesions are comparatively trivial, and their symptoms are mild (chronic discomforts and disabilities rather than an actual menace to life), and yet remediable only by surgical measures;

*This patient made a good recovery after the operation and remains well (October 1, 1903).

others are severe and lethal, demanding immediate and extensive operations, sometimes of extreme difficulty. In one patient I found, as the only explanation of intense paroxysmal pain, not gall-stones as I expected, but instead of gall-stones a beginning cancer of the pylorus. Though resection of the pylorus, followed by suture, has in this patient been thus far successful, the pain itself has not been relieved. The symptoms, as far as the results of the exploration go, were not satisfactorily explained. Too often, however, obscure symptoms in the right upper quadrant are owing to lesions of such long standing that surgery can be of no assistance in their alleviation. On the other hand, symptoms of moderate severity may be caused by lesions which, though of long standing, permit successful operations of but slight risk. The severity of the symptoms does not always correspond with the facility of relief; for trivial symptoms as often depend upon hopeless disease as severe symptoms do upon easily remedied disease.

In certain rare instances when the symptoms have been almost surely indicative of gall-stones, I have been surprised to find other and quite different lesions, sometimes far removed from the gall-bladder. On the other hand, when the symptoms have suggested almost any other lesion, I have found their explanation in the presence of gall-stones somewhere in the biliary passages. One, therefore, seldom errs in exploring the right upper quadrant, even if the symptoms are entirely subjective, for there is almost surely some defect to be remedied or some active lesion to be combated. When the symptoms suggest gall-stones, gall-stones in the great majority of cases are found. When under this diagnosis, however, gall-stones are not found, some other condition quite as important, and often more dangerous to life, is encountered. Illustrative of these statements I can recall cases which have given me more satisfaction than almost any others in abdominal surgery. One I have just mentioned. In another, instead of a dilated and diseased gall-bladder, I found a pyonephrosis which had never been suspected; in fact, it had been ruled out of the possibilities by repeated examinations of normal urine. In a third, the tumor was that of an intermittent hydronephrosis, and the patient was cured by a ureteroplasty. In others, there have been kinks and flexures of the pylorus and the duodenum, appendicitis (a recent case in Brockton simulating exactly an acute cholecystitis), acute enlargement of the pancreas, ulcers and strictures of the pylorus.

On the other hand, explorations in this region have in some

cases shown, instead of appendicitis, of lesions of kidney, pancreas, or stomach, the easily-remedied faults of simple gall-stones. In a word, I know of no chapter in abdominal surgery so filled with brilliant possibilities as that of the biliary passages and of the adjacent structures.

My experience in the surgery of the biliary passages is limited, roughly speaking, to three hundred cases. This number includes those operated upon and those not operated upon. Other lesions of the right upper abdomen, suggesting gall-stones, make a very considerable addition to these cases. To the cases which I have personally treated should be added the large number which I have had the opportunity of observing in the wards of my colleagues at the Massachusetts General Hospital.

This field to the abdominal surgeon is second only to the pelvis and the right iliac fossa in the frequency of surgical explorations. From the point of view of importance to life, the right upper quadrant is second only to the right iliac fossa; for lesions of the biliary passages, the pylorus, and the duodenum, to say nothing of the right kidney, are, in the dangers, disabilities, and discomforts which they cause, of great frequency and of grave significance. With the rapidly increasing experience gained through surgical explorations, it seems not unreasonable to conclude that the surgery of this field, in the near future, will be enormously increased.

In connection with the lesions of gall-stones there are many questions which are as yet by no means fully determined: when to extirpate the gall-bladder, and when not; when to drain, and when not; where to drain, and how. What is the etiology of gall-stones, the etiology of their recurrence; what are the best methods of operating; and of the management of biliary infections; what contraindications are sufficient to set aside the rule that "gall-stones should be removed whenever they begin to offend enough to make their presence known"? What and how strong must the indications for intervention be when the lesions are so old and so severe that the immediate prognosis is grave? In connection with obscure lesions in the right hypochondrium, what are the indications for exploration and what the contraindications?

With great uncertainty in my mind as to some of these things it seems not inappropriate, therefore, for me to make a few remarks upon one or two of these questions, preferably those in which I have recently been especially interested.

Observations made upon the living have seemed to me of great value in connection with symptoms referred to the right

upper quadrant. These observations I have made systematically in the course of abdominal operations which, without additional length of incision, exposure of the viscera to the air, or existing abdominal infections, have permitted them. They have been made as a rule in the course of aseptic pelvic operations. Apparently they have not influenced unfavorably the convalescence. No such examinations have been deemed justifiable in shock or in operations dangerously prolonged; and none have been made in the course of localized septic infection for fear of spreading that infection. Furthermore, none have been made when the exploration required considerable lengthening of a short incision, unless the indications for exploration were imperative.

The results of these examinations have been of value. I have found gall-stones in several patients who have never been conscious of a single unpleasant symptom. The knowledge of the existence of these stones has enabled me to question the patient closely and intelligently; to obtain an accurate description of all symptoms and conditions which could possibly have been dependent upon these stones, and later with absolute knowledge of the facts to advise for or against surgical intervention. The information thus gained has certainly been interesting; for, as I say, in several cases not a sign reasonably dependent upon these stones has been discovered. Indeed, even when for an indefinite period the gall-bladder has been packed with stones, or when it has been tightly contracted upon a single large one, there have been in many cases no symptoms whatever in the previous history. In one case I found a stone in the common duct, where I easily crushed it between the thumb and fingers.

The frequent discovery of gall-stones at autopsy is well known. Unfortunately, it is not always well known whether or not these gall-stones caused symptoms. Even if they caused symptoms, these symptoms may not have been ascribed to the gall-stones. Indeed, in the absence of a history, as is the case of most dissecting-room subjects, the absence of pathologic changes has led to the false inference that there could have been no symptoms. It has only recently been shown that gall-stones not infrequently manifest themselves merely by interference with digestion. Indeed, one of the commonest signs of gall-stone disease is indigestion. It is not likely that dyspepsia, in the history of patients in whom after death gall-stones have been found, has before the last decade been attributed to these stones; and yet no success in surgery is more brilliant than the immediate and permanent relief of dyspeptic symptoms after the removal of

gall-stones, unless, indeed, it be the disappearance of digestive disturbances after the removal of a chronically inflamed appendix.

The demonstration of gall-stones, therefore, enables the surgeon to find out what the symptoms of gall-stones in obscure cases really are, and especially in cases of digestive derangement hitherto regarded as functional.

Questions concerning the relations between gall-stones and enlargements of the pancreas seem to me likely to be settled by these systematic explorations. Although attributes of shape, size, hardness, smoothness, and mobility, with infiltrations and metastases, are the only things that can be determined by the tactile sensibilities of the examiner; yet these attributes, with the exception of sections and microscopic examinations, are during life the only ones we have upon which to base diagnoses and indications for operation. They comprise, with the history of the case, the most important evidence, more valuable, indeed, than the evidence of the laboratory alone. It would certainly be a hazardous experiment, even when feasible in these cases, to remove a section of the pancreas for microscopic examination; and little would really be gained, beyond an accurate knowledge of the causes of enlargement; for in malignancy no radical operation upon the pancreas would be justifiable, and in nonmalignancy none would be necessary. The results of my own observations upon the pancreas, gained by digital explorations, have been negative in all patients without gall-stones; though in connection with gall-stones I have met with a few changes in the pancreas already described as chronic pancreatitis.

Many other interesting facts may be determined by thus exploring with the hand the region of the gall-bladder and biliary stream. These facts, as they are multiplied and verified, will, I am sure, become of great value in determining questions of diagnosis, of treatment and of prognosis.

Digital examination of gall-stones crowded in the gall-bladder has in one of my cases caused subsequently a brief attack of pain. In this case a single large stone filled the gall-bladder, or rather, the gall-bladder was contracted upon a single large stone. The pain in this patient was evidently caused by contraction upon the stone, for escape of the stone itself by natural channels was of course impossible.

I can recall cases in which failure to examine the right upper quadrant in the course of operations lower down resulted in the overlooking of highly important information. In one case in particular, obscure right-sided pain was treated by appendectomy

and by right ovariectomy successively. There was a chronic appendicitis and an ovarian tumor as large as an orange. This patient, I understand, was recently operated upon for gall-stones with fatal result. Though I know nothing of the details of the gall-stone lesion it seems to me quite possible that it concerned to some extent at least the history upon which I based my operations. Failure to examine, therefore, though justified by an insufficient length of incision to permit it, may in this case have worked disaster. And yet in similar cases, when *e. g.* the appendix is removed through an inch incision it is, in my opinion, poor surgery to enlarge the cut for so uncertain an addition to our knowledge of the case.*

The most depressing portion of my subject, but the most useful and instructive, and perhaps the most neglected (being the most thankless), is that which deals with the fatalities. From the point of view of danger, suffering and death, attributed rather to operative measures than to prolonged neglect of those measures, the surgery of the biliary passages has thus far too often been judged. From this point of view the disasters of biliary surgery should be seen as they really are: intelligent and determined efforts of the surgeon to remedy the evils of a painful disease in its advanced and most fatal stages; efforts often successful, but when unsuccessful, unsuccessful because too late. A candid review of fatalities owing to lesions of the right upper quadrant of the abdomen is of the greatest service in placing the surgery of this prolific field where it ought to be, especially if this gloomy view is contrasted with the results of timely intervention.

In the surgery of gall-stones, when fatalities occur, they are always associated with, or dependent upon conditions, local or general, of long standing. The age of a gall-stone lesion is not the age of the gall-stone itself, but the length of time that the gall-stone has been a source of irritation. In many gall-stone cases, even if the gall-stones are numerous and evidently old, no gross lesions whatever are perceptible. As far as the lesion which causes the symptoms is concerned, these cases are recent ones. A

*A recent case illustrates more fully the disadvantages of nonexploration. A clergyman of 40 had what seemed to me a mild typical appendicitis, except that the suspicion of renal stone was raised, strong enough to postpone operation. After subsidence of his acute attack of supposed appendicitis, he passed a small renal stone. Some years later a second attack of unmistakable appendicitis led to the successful removal of a chronically inflamed appendix. Some months later, while recuperating in the Maine woods, this patient was seized with pain in the right upper quadrant, tenderness in the gall-bladder, and fever. Dr Cousins, of Portland, removed four gall-stones from an inflamed gall-bladder. The interval operation was performed through a very short incision, which did not permit thorough palpation of the biliary passages. The appendix was so evidently diseased that it seemed the whole source of the symptoms. Manual explorations of the gall-bladder would have quadrupled the length of incision. The end certainly did not justify the means, *a priori*, though the subsequent history showed the necessity for operation upon the gall-bladder.

recently formed stone cannot be the cause of an old lesion, though of course an old stone may be the cause of a recently formed lesion. As a rule, however, the older the stone, the older the lesion and the more prolonged the history of irritation. The gauge of the extent and the severity of the local lesion is roughly the duration of the local symptoms dependent upon that lesion, colics, infections, digestive disturbances; so, too, the depth and severity of the constitutional symptoms, cholemia, septicemia, hemophilia, anemia, inanition, and the like, are gauged roughly by the age of the mechanical causes.

The chapter of disaster and death in lesions of the biliary passages is a sequel to the chapter dealing with the prolonged effects of those lesions. When the latter deals with contracted, thickened, ulcerated, infected gall-bladders; with impacted cystic ducts, adherent inseparably to contiguous structures, with perhaps cicatrized channels by which stones had previously escaped; with common duct impacted and with hepatic dilated perhaps back into the liver, containing stones, now impacted below, now free and retreating into the great fissure; with the evils of prolonged jaundice; with patients of sapped vitality, discouraged by long suffering, unable to resist well brief operations, and much less able to withstand long and desperate ones; when the latter chapter deals with desperate conditions like these, the former must needs deal with disappointment and disaster.

There is practically no mortality in the operation of removing gall-stones when these stones are in the gall-bladder, and the patient is in good general condition, in that early middle life when they begin to offend. Moreover, all the late changes in the biliary tract, so fatal both directly and indirectly, are avoided, and, in the majority of cases, avoided permanently. On the other hand, the mortality in old cases is excessive. Were this mortality to be the rule in operations performed at the time of choice, little indeed could be said in favor of the surgical treatment of gall-stones; the prognosis under medical treatment, bad as it is, would surely in the long run be more favorable. It is in the late stages, in the advanced lesions of gall-stones, that the fatalities occur, or if not in the old and neglected cases, in those in which the very first manifestation is a serious one,—a gangrene of the gall-bladder, a perforation into the peritoneal cavity, an infectious cholecystitis or a complete occlusion of the common duct.

The mortality at the Massachusetts General Hospital has been gradually reduced in the past 15 years by two causes: First, the earlier operation and the more favorable case; and, secondly,

the greater experience and skill of the operator. My own success has been proportionate to the promptness of surgical intervention after the establishment of the diagnosis. My fatal cases have been fatal because the operation has been too late. Taking the cases operated upon since October, 1902, some 35 in number, three have proved fatal. The first case was that of a woman of 65, with jaundice, fever, and poor general condition. An exploration showed a contracted and infected gall-bladder containing a single large stone and an ulcerated nidus of the gall-stone with localized peritonitis. In this case there was a previous history of gall-stones extending over many years; a reluctant decision that operation must be performed, with a full realization of the probable outcome; a difficult, deep, and prolonged operation; and, finally, death in the course of two or three days.

The second case was an acute cholecystitis, with gall-stones, in a flabby woman weighing 300 pounds. After a few days' observation, in the hope of spontaneous subsidence, drainage became imperative. Death occurred a week later from total gangrene of the gall-bladder and melting abdominal fat.

In a third case, after cholecystectomy with removal of 31 stones, a single one was detected in the hepatic duct. Choledochotomy, and extraction of the stone from the hepatic duct, became necessary. Death took place on the third day. In this case the operation was not performed until the patient had been reduced by many years of intense suffering. In none of these cases was the outlook after operation good. Surgical treatment was undertaken as a last resort. Recovery by medical treatment was not to be hoped for.

These three deaths, occurring since October 1, 1902, contrasted with about 30 or more successful operations upon the biliary passages during the same period, under comparatively favorable conditions, present, I think, the most potent arguments in favor of early explorations.

The cause of death after operations upon the gall-bladder is, first, the shock of the prolonged operation. Death may not be from immediate shock; the patient will rally fairly well, only to die in the course of two or three days. In such cases infections, local or remote, seem to have little to do with the result, for to all appearances there are none. General peritonitis from the operation itself is extremely rare, the infection, if any exists, being well localized in the right upper quadrant for anatomic reasons to which I called attention a number of years ago.

In some cases the patient fades out and dies apparently of

exhaustion. This takes place in a few days, the powers gradually failing, the temperature falling and the pulse rising. This ending is to be met with chiefly in emaciated patients advanced in years, after prolonged and difficult dissections in the depths of the abdomen.

An occasional cause is hemorrhage; this has been attributed to jaundice; and in one instance at least jaundice was, I think, the cause. In two cases already published there was a continuous slow ooze from the depths of the gall-bladder. In one case the disease was cancer of the gall-bladder; in another it was an ancient cholelithiasis.

One patient died of hemorrhage under unusual conditions. There was no jaundice, and yet the hemorrhage was precisely like that occurring in jaundice. This patient had had no bile in the intestinal tract for several months, having a biliary fistula following cholecystotomy and extraction of a stone from the cystic duct. The digestive tract had been deprived of bile, and there was none in the system. The patient died of uncontrollable capillary hemorrhage after removal of a stone from the common duct. The explanation of this tendency to bleed is that it was caused by the absence of bile from the intestine. Thinking that bleeding was owing to jaundice only, I had had no test made of the blood-coagulation time, and the possibility of hemorrhage was not even considered. No ligatures were at first required; but before the operation was finished every capillary seemed to ooze, and the hemorrhage could not be checked. An interesting study, suggested by this case, would be to determine the effect of a prolonged biliary fistula.

The arguments against the surgical treatment of biliary affections, based upon the spontaneous recovery of many patients, overlook the fact that the gall-stones still remain, and that symptoms may at any time recur, even after years of latency. That small gall-stones may in large numbers pass from the gall-bladder into the duodenum, I am convinced, for I have seen several dozen collected from the stools after a severe attack of gall-stone colic. That a single one large enough to obstruct the intestine may make its way in some fashion into the alimentary tract, and that, too, without symptoms, is certain, for I have seen such a case. I have opened the gall-bladder, several times, too, after the most characteristic gall-stone colics, and found nothing, being thus led to the conclusion either that the diagnosis was wrong or that all the stones had escaped. Nevertheless, in the great majority of cases,

many gall-stones are left, or a few so large that escape except by the dangerous process of ulceration is impossible.

The truth is, as I have often demonstrated to my own satisfaction at least, that gall-stones are not dissolved or removed by any course of medication. On the contrary, they remain latent, slumbering only to wake perhaps at the most unfavorable moment into tremendous activity. And this latent power of evil is in the old case, the one or two large, rough, and crumbling stones, which may perhaps be rendered temporarily innocuous by medical treatment or may become innocuous coincidently with medical treatment. If, however, the cause still remains, the local conditions grow worse, and the patient's powers gradually decline. When the final resort to surgery is forced upon the reluctant physician and his patient, there prevail those unfavorable conditions which have made this class of cases so fatal. A physician whose patient, after months of jaundice, died of hemorrhage following operation, once said, "I shall never forgive myself for having permitted this operation;" though he easily forgave himself for allowing the patient to pass into, and remain in, the state of jaundice and hemophilia which made the operation immediately fatal.

Operation removes the stones; it cleanses, at once and for good, the *fons et origo mali*.

But does it? This question is one of the most important and interesting connected with the clinical history of gall-stones. As far as my experience goes, drainage of the gall-bladder by cholecystotomy, in the great majority of cases, has been followed by complete and permanent recovery. If the nidus of the stone is in an infected gall-bladder, that gall-bladder, by three or four weeks' drainage, becomes completely cleansed, and no recurrence of stones takes place. In a few cases I have removed a second stone; but that has been an old stone overlooked at the operation, and later impacted in either the cystic, the common, or the hepatic duct. Such occurrences are unavoidable, especially when the first operation is performed for late manifestations of gall-stones; for acute cholecystitis when the patient's general condition forbids prolonged operations; for stones impacted in the common or the hepatic duct when a second or a third stone has retreated up the dilated hepatic duct into the liver, and cannot be felt. I have never yet seen the recurrence of fresh gall-stones after any method of surgical treatment.

I believe, therefore, that cholelithiasis is permanently cured by drainage of the gall-bladder. Sufficient time has not elapsed, however, since most of my operations have been performed to tell

accurately, for most of them have been within the last three or four years, when operations have greatly multiplied.

Another important question is regarding the source of gall-stones and their distribution in the biliary passages. Clinical experience shows that in the great majority of cases gall-stones are found in the gall-bladder, for they exist there in great numbers, and nowhere else in the biliary tract. They must be formed there, for they could in no other way get there, unless, indeed, they arise in the radicles of the hepatic duct and pass into the gall-bladder as very small bodies, in the process of cystic storage.

The gall-bladder is certainly the seat of infection in no small number of cases, especially in the course of typhoid fever. An infected gall-bladder is temporarily shut off from the rest of the biliary tract. The bile is changed physically, and sometimes to a marked degree. As the inflammation subsides, the cystic duct becomes patent, and the gall-bladder resumes its functions. At such a time, doubtless, gall-stones take their inception. In theory an infected hepatic radicle may be the nidus of a stone; but the constantly increasing size of this radicle opposes no resistance to the flow of bile. It seems unlikely, therefore, that the microscopic calculus should succeed in withstanding the force of the biliary stream. It would rather be washed out immediately into the duodenum, or, as I have said, be deposited in the gall-bladder, there to attain dimensions large enough to be permanently retained. In theory, however, one can imagine a stasis of hepatic flow long enough to permit a stone to grow to considerable dimensions. Postmortem observations show that stones may form in the liver. Once large enough to be permanently retained, however, there they would remain fixed, with perhaps an occasional dislodgment.

The hepatic ducts, however, must be but very rarely the source of gall-stones large enough to cause symptoms, either of colic or of biliary obstruction. The inference is that once the gall-bladder, the cystic, the common, and the main trunk of the hepatic ducts are emptied, no stones remain; furthermore, that no stones are likely to form again, except through conditions similar to those of their inception in the first instance.

But gall-stones are found in the hepatic duct, and sometimes up in the great fissure of the liver, beyond the reach of digital examination. The source of gall-stones, even when they are found in the hepatic duct, is in almost all cases the gall-bladder. The explanation of this fact is, I think, mechanical. Stones escape from the gall-bladder to become impacted in the common

duct at the mouth of the cystic. The hepatic becomes dilated enough for the stone, temporarily loosened, to retreat toward the liver. In this way several stones may be found in the hepatic duct. In a recent case, mentioned previously in this paper, there were 30 stones in the thickened and dilated gall-bladder, all easily and quickly removed. At the first examination of the ducts a stone was felt near the great fissure, presumably in the hepatic duct. Repeated examinations failed to detect it again. At last it was felt and removed after removing gall-bladder and slitting the cystic duct into the hepatic and common. This stone was a trifle larger than the 30, of lighter color, with sharp angles, and with a light deposit upon the dark facets by which it resembled the others. It was a stone escaped from the gall-bladder and impacted at the junction of the cystic and hepatic ducts. There impacted, it had caused transitory attacks of jaundice. Under the pressure of the biliary flow, the hepatic duct became uniformly dilated. Bile got by the stone, either by the increased size of the hepatic duct, or by recession of the stone up into the liver, or by both. All went well until the stone became again impacted. Had this stone stayed in the fissure, I should never have detected it, and my operation on the gall-bladder would have done no permanent good. So in another recent case, operated upon by a competent surgeon, no stones were found in the gall-bladder or anywhere else. I extracted three stones from the hepatic duct, where they had, by mechanical causes above mentioned, fixed themselves.

Several similar cases have come under my observation. The inference is that the hepatic duct may conceal one or more stones, and that, once a patient is jaundiced, the hepatic, as well as the common duct, must be explored. Inasmuch as exploration of the hepatic duct is impossible without suitable instruments, it is necessary to open the common duct in cases of impaction, or suspected impaction, and to pass exploring instruments upward as far as possible.

In one case I found the gall-bladder, the cystic, the common, and the hepatic duct excessively distended with gall-stones. The gall-bladder and ducts were about the same size. I removed 150 stones by cholecystotomy and choledochotomy, leaving a large tube in the gall-bladder after closing the common duct. During convalescence Dr Williams removed 150 more stones from the gall-bladder. This patient made a good recovery, I understand; but a year later she died suddenly after an attack of acute pain in the gall-bladder region. For this she took an opiate, and never awoke.

Recurrence of jaundice after closure of the abdominal wound is not very infrequent. It may be caused by the impaction of a stone that was concealed in the hepatic duct during the exploration, as already mentioned, or it may be owing to causes little understood. A transitory jaundice suggests temporary closure of the common duct from some inflammatory cause, either in the duct, the pancreas, or the duodenum. I have seen the quick occurrence of jaundice often enough after operations not to be especially disturbed by it; and not to explore a second time until the obstruction was clearly permanent. Obstruction to the flow at some point between the cystic duct and the duodenum is not uncommon before closure of the external wound. In such cases let the patient alone; bile will appear in the stools as soon as the wound closes sufficiently to obstruct the escape of bile in that direction and to force it through normal channels. I have seen this occur after some weeks' complete obstruction of the common duct.

Just how long one ought to wait, however, is uncertain. I should take at least two or three months before exploring again. In one case, a case of Dr Mixer's, the patient had a biliary fistula for a year following the first operation, during which time many observations were made upon the effect of the so-called chologogue cathartics. A stone was finally removed from the common duct, and the patient was cured.

In all cases of jaundice and of biliary fistulas careful examinations must be made as to the probabilities of hemorrhage. In every case the patient should receive regular doses of ox-gall. I have found no efficacy in calcium salts or in gelatine injections. In connection with ox-gall I have given an abundance of acid fruit. After all, however, hemorrhage, like all other anticipated accidents of surgery, never occurs when it is looked for; it is always an unexpected disaster.

The liability to overlook gall-stones is great, even at the hands of the most experienced. I have been surprised, time and again, to find gall-stones in a gall-bladder which I thought I had just thoroughly emptied; in a cystic duct which I thought I had explored beyond the possibility of mistake. I have failed to find a stone in the cystic duct until I have isolated it, or even opened it. I have overlooked a stone in the hepatic duct until its presence has been demonstrated by autopsy. I look upon failure to discover the last stone in certain cases as an unavoidable omission, even when the ducts are wide open and permanently drained. The ease with which one may fail to detect gall-stones was illustrated recently by my taking from a gall-bladder 142 stones, none

of which could be felt digitally in the full gall-bladder until one was caught at the fundus between the thumb and fingers.

In many cases cholecystotomy and drainage are followed by the escape either of no bile or of a clear, colorless mucus. This is especially true when the gall-bladder is drained for an acute infection. With subsidence of the inflammatory changes about the cystic duct, however, bile will appear. When after a reasonable time bile does not displace mucus, occlusion of the cystic duct is sure. Moreover, that occlusion is probably caused by an impacted stone. Persistent mucous discharge indicates a second operation, sooner or later. After complete closure of the external wound, distension of the gall-bladder with its own secretions is a matter of time only. Reopening of the gall-bladder will take place by itself, or gradually increasing pain will demand it.*

The most interesting subject connected with the surgery of the biliary tract is that of the pancreas. Based upon the not-infrequent cases of cancer of the head of the pancreas associated with jaundice and emaciation, my judgment in cases of supposed gall-stones associated with enlargement of the head of the pancreas became completely warped. Jaundice, caused apparently by a stone impacted in the common duct, led to an exploration. No stone being found in the biliary tract, and a thickening and resistance being conspicuous in the head of the pancreas, the conclusion was quickly reached that the lesion was indeed pancreatic, and hopeless. One or two permanent recoveries after cholecystotomy and drainage served to excite in such case a good deal of surprise. It did not, however, suggest at once the probability of a temporary inflammatory lesion of the pancreas or of the pancreatic duct. Even as late as three years ago, I gave an absolutely unfavorable prognosis when I found an enlargement of the pancreas associated with jaundice and gall-stones in the gall-bladder. The patient, however, not only made a quick recovery from the operation, but remains in perfect health. In several similar cases, especially in men of early middle life, biliary drainage through cholecystotomy has been most brilliantly, and thus far permanently successful.

*One recent case seems to prove an exception to the rule that a mucous secretion always means an obstructed cystic duct. The patient, a man of 35, was operated upon for gall-stones by a skillful surgeon of a neighboring city. The gall-bladder was drained, and a fistula persisted, discharging colorless mucus. I advised the patient to return to his surgeon and have the gall-bladder removed. This was done. A fistula discharging mucus still persists. The gall-bladder region becomes distended, painful, and tender whenever the fistula closes. The patient opens the sinus with a probe, clear mucus escapes, and his painful symptoms disappear. I know the excellence of the surgeon's work, his skill of observation and of dissection, and yet he must have left, above an obstruction, some part of the gall-bladder or of a dilated cystic duct extensive enough to secrete abundant mucus. This inference seems to me unavoidable, and I have advised a third operation.

The effect upon the pancreas of drainage through the gall-bladder seems to me, nevertheless, anatomically inefficient. The free escape of bile through the gall-bladder permits efficient drainage of hepatic, cystic, and common ducts, and gall-bladder. It does not, it cannot, affect the canal of Wirsung, at least not immediately, unless the obstruction is between that canal and the duodenum. The obstruction is, however, in that part of the head of the pancreas which surrounds the common duct. In theory there can be no subsidence of the pancreatic inflammation until there is pancreatic drainage, and there can be no pancreatic drainage until there is subsidence of pancreatic inflammation.

Whatever the explanation may be, clinical observation abundantly proves the great benefit of biliary drainage in disease of the pancreas associated with pain and jaundice, whether gall-stones are found or not. Though the cases are as yet few in number, they are multiplying, thanks to the widely spreading interest in this brilliant field of abdominal surgery. It is not too much, perhaps, to hope that through early recognition of impending disaster, that most fatal of abdominal lesions, acute infection of the pancreas with hemorrhage and fat necrosis, may be successfully anticipated and prevented by so simple a procedure as temporary drainage of the biliary tract.

Anatomically and technically, early explorations of the gall-bladder, bile-ducts and pancreas are of the safest and simplest character. Exposure of the gall-bladder through an incision in the right rectus, digital exploration, incision of the gall-bladder and removal of its contents, drainage and closure of the wound, all these steps in rapid sequence may safely be made in a very few minutes. Tube drainage for a week, drainage into gauze dressings until complete spontaneous closure of the wound, the whole convalescence a matter of three or four weeks, sure and permanent recovery, such will be the history of the great majority of operations for suspected lesions of the biliary tract.

I cannot close this part of my paper without contrasting the early with the late operations upon the biliary passages.

In the ancient lesions of these passages the surgeon will first be confronted by a tangle of adherent viscera. Gall-bladder, duodenum, pylorus and colon will be tied together, perhaps in abnormal relative positions by adhesions of great strength and thickness, requiring prolonged and difficult dissections through an easily and obstinately bleeding field. The patient's strength may be sapped long before the exact nature of the lesion is found.

When the lesion is, however, apparent, it may be a stone in the common duct, the relations of which with portal vein, duodenum, pancreas, and inferior cava, may themselves share in the general obscurity. Cutting into the duct may wound the intestine, the stomach, or the inferior cava, or, worst of all, the portal vein. Even this common duct dissection is, however, easy compared with search into the depths of the hepatic duct and the great fissure of the liver unless, indeed, this search be carried on through the opening already made in the common duct.

The gall-bladder itself will be found the chief offender. Whoever has tried to find, not to say to open, to separate, to remove an old contracted, thickened, ulcerated, adherent gall-bladder, attached to no one can tell what, will appreciate the difficulties of this operation. He will feel himself fortunate if he accomplishes his purpose without doing irreparable and fatal damage. He will often wish that he had not begun a dissection which he has carried too far to abandon. Finally, he will, in too many cases, see his operation followed by an early death.

Yet even these difficult and dangerous operations are not infrequently successful. The reaction is in some cases extraordinarily favorable, and recovery is speedy. I must say that even in the worst class of cases the results as a whole are to be regarded as brilliant, the wonder being that any patients at all recover. That any do recover is, I fully believe, because of the experience and skill of the operator. The mortality in this class is probably about 20%; that in the early and favorable cases, less than 1%. I am therefore impressed by the similarity between the favorable and the unfavorable cases of gall-stone disease, and the favorable and unfavorable cases of appendicitis. Taking together the cases of acute appendicitis allowed to go to perforation and peritonitis, local and general, the mortality will be about 20%. At the Massachusetts General Hospital, for example, in 1901, of 337 cases of appendicitis, general peritonitis claimed 75% of the deaths; localized peritonitis, 5%; chronic appendicitis, 0%. In general say from 15 to 20% of deaths in all acute cases.

In gall-bladder disease a similar mortality prevails: in old long-standing cases, a very high mortality; in medium cases, a small mortality; in early, uncomplicated cases, no mortality.

I for one cannot oppose, nor do I wish to oppose, the overwhelming evidence in favor of early operations, and of operations in the period of quiescence, whether the question be as to the best surgical treatment of gall-stones or of appendicitis.

What is the present status of gall-bladder surgery with reference to indications for operation?

Looking back upon the results at the Massachusetts General Hospital for the past 15 years, I am impressed by the evils of so-called conservatism. They are conspicuous; they are emphasized by prolonged suffering, great dangers, immediate and remote, and by frequent fatalities. Like delayed operations for acute appendicitis, delayed operations for gall-stones oppose, and often ineffectually, the gravest anatomic complications and surgical emergencies.

In early operations for gall-stones, as in early operations for appendicitis, we know that the result must be favorable; with delayed operations for gall-stones, we can only hope that the result will be favorable. As in chronic appendicitis we should select the most favorable time for operation, as soon as the diagnosis is clear, so in cholelithiasis we should operate whenever possible in the period of perfect health.

Abdominal surgery in the past 10 years has practically banished from the clinic the enormous ovarian tumors of early days. By taking out the grumbling appendix, it has greatly diminished the possibilities of the fulminating case.

In the surgery of the biliary passages, operations upon gall-stones as soon as the diagnosis is made clear by the trivial symptoms of beginning irritation, will diminish those distressing calamities of prolonged cholelithiasis which furnish our chief mortality in this branch of abdominal surgery.

Suggestions on the Nature and Treatment of Delirium Tremens

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During the past five years I have had a quite excellent opportunity for observing a number of patients belonging to the class of alcohol habitués, who have from time to time been admitted and readmitted to the State Hospital at Cleveland. These observations have made more clear to my mind the true outlines of certain phases of alcoholism and, I hope, likewise extended my knowledge of their rational treatment. In this paper it is chiefly my object to call attention to the significance of the so-called prodromata or what might be more appropriately termed the first stage of delirium tremens; the second stage, or period of true delirium, being in my opinion a culmination, often needless, of

the first. I mean by this that when the patient can be treated from the beginning, prophylaxis is not only of the greatest importance, but, judging from my experience, comparatively simple.

Delirium tremens, commonly so termed, is invariably associated with alcoholism; that is, alcoholic habituation always exists before delirium tremens occurs. In the light of our present knowledge a satisfactory definition of the term "habituation" as applied to any drug cannot be given. We may, however, safely assume that alcoholic habituation indicates a semipermanent and abnormal change in the central nervous system involving very markedly certain elements of the will; that it signifies the existence of a morbid appetite based upon a distinct pathology, and I am convinced that *under certain conditions* the demands of this appetite constitute an actual necessity which cannot be unheeded without severe suffering, and in some instances, danger to health or life. On the other hand, an alcohol habitué may live his life and finally die without having had delirium tremens. Why this may be and what, I am inclined to regard as the real nature, and a determining or immediate cause of this psychosis will be stated later.

For certain reasons I would divide delirium tremens into two stages: The first stage, the one during which the consciousness is not materially altered, and the second stage as that which is signalized by a distinct alteration continuing until either convalescence or death. In order to further emphasize the point, as it were, at which the first stage ends and the second begins, I shall hastily allude to the more prominent symptoms. During the first stage there are pallor, anorexia, tremor and muscular weakness, general hyperexcitability, restlessness, fear, sleeplessness, and usually albuminuria. Among the various psychic phenomena attending this stage, the exaggeration of the emotion of fear is perhaps the most striking. No other very remarkable mental manifestations occur as yet. The patient craves alcohol and repeatedly asks for it. This stage continues for several hours or longer. Under certain conditions these symptoms gradually become more prominent and finally merge into the second stage. This stage, with alteration of consciousness, is heralded by the advent of hallucinations and illusions, always disagreeable and usually horrifying. Upon these disorders of sense are based fleeting delusions of fear and suspicion. The patient now will often refuse water, food, or medicine. He is watchful, apprehensive and depressed. His mind is dominated by thoughts of escape from the imaginary dangers which

beset him. He occupies much of the time looking or groping about the room, restlessly examining keyholes, crevices and walls. He may feel justified in jumping out of a window, breaking a door, committing homicide or suicide. The earlier objective symptoms still persist and are more alarming. The pulse is rapid, soft and of poor tone, the skin is moist, the bowels and kidneys are inactive. The tongue is dry, the pupils are dilated, and sleeplessness continues. Usually after a week or ten days convalescence begins. Death very frequently ensues from exhaustion and coma.

An interesting phenomenon which I have observed after the second stage was established has been a changed mental attitude toward alcohol. Frequently patients no longer have a conscious craving for the drug, and in several instances they have even refused to accept it. Also in the cases I have seen, whether traumatism had been sustained or not, the physical symptoms *en masse* have always seemed to indicate the presence of more or less shock.

It is hardly necessary to say that alcoholic habituation is the basic factor in the etiology of delirium tremens, and that, together with this, there is nearly always a history of unusually heavy dissipation shortly prior to an attack. There is still, however, in my opinion, another more immediate or determining factor which seems to have attracted little notice, but which I believe to be constant and of great importance, namely, sudden abstinence or, in other words, sudden withdrawal of alcohol either wholly or in large part as the result of poverty, accident, force, or insane willfulness.

Influencing unfavorably the effect of such abstinence are first shock and, second, unusual physical or mental depression from whatever cause. The seriousness of the condition following sudden abstinence is also modified by the degree to which organic habituation exists, the extent to which recent unusual dissipation has occurred and the patient's innate vitality. It is therefore true that in certain favorable cases sudden abstinence apparently does not entail serious consequences. On the other hand, as illustrative of what I regard as the usual effect of sudden abstinence under certain conditions, the following is given: An alcohol habitué meets with an accident. Suffering from shock and helpless, he is unable to obtain the drug which now, more than ever, his organism demands. He is conveyed to his home or possibly to a hospital. The physician notices at once among other things the evidences of alcoholic excess. Although the patient pleads for

alcohol, little or none is given. It is reasoned that as the prolonged and excessive use of alcohol has already seriously injured the patient's health, and has been the chief cause of his present unhappy plight, alcohol, above all other things, should be removed, and the sooner it is done the better. The important factors of habituation and sudden abstention are apparently disregarded even though the patient is already manifesting tremor, fear, and other prodromal symptoms of a like significance. Chloral, the bromids, etc., are largely relied upon; and if alcohol is given at all, the amount is so small as to be of practically no benefit, in spite of there being two strong indications for its administration in large amounts, *viz.*, alcoholic habituation of the patient and the presence of shock. We know how frequently and, I might add, unnecessarily, the culminating phases of delirium tremens develop under these circumstances, and that the following results are usually unsatisfactory: That alcohol in such a case is the poison fundamentally responsible for the patient's condition, and that it should be removed goes without saying. Yes, but it should be removed in the proper manner, *i. e.* gradually, not abruptly.

When a comparatively normal person unwisely or wrongfully indulges in alcohol to the extent of intoxication there follows certain sequels which may be disagreeable and even serious. Such have not, however, either in their nature or character, any semblance to the manifestations of delirium tremens. The alcohol habitué is by no means normal either mentally or physically, and I would think it no less illogic to expect similarity in the sequels, as for instance, malaise, constipation and headache following several large doses of morphin taken by a normal being, to the abstention psychosis with vomiting, diarrhea and collapse resulting from sudden deprivation in the case of a morphin habitué.

Is then delirium tremens an alcohol abstention psychosis? In a spirit of inquiry rather than of assertion, I would say that it is. In other words, I am much inclined to believe that abrupt withdrawal of alcohol either wholly or in large part after habituation has been established is the principal determining cause of delirium tremens. This opinion is based chiefly upon the results of two plans of treatment both of which I have employed, *viz.*, sudden withholdance, and gradual withholdance. The former plan which is still advised by writers of authority was in vogue at St. Alexis Hospital while I was a resident there in 1896, and in my practice at the State Hospital until about three years ago. With the former method I not infrequently have seen delirium tremens develop in cases under my charge, while during the past three years since

practicing gradual withholdance none have occurred. This is significant because of the fact that since then I have come in contact with more cases of this class than during the two previous years. For instance, we have a certain alcoholic patient who has left and returned to the hospital upon four different occasions. Always upon his return he has shown marked evidences of recent alcoholic dissipation. During 1900 he was returned twice. Alcohol was prohibited from the beginning. He developed delirium tremens each time. During 1902 he was returned twice in a condition which, if anything, was more serious than ever before. Upon these occasions alcohol was given in proper amounts and gradually reduced to *nil* in about a week. Delirium tremens did not occur.

There is evidently a remarkable difference of opinion among authors who have laid down rules for the treatment of this disorder. For example, Osler and Berkley, on the one hand, state respectively that "alcohol should be withdrawn at once unless the pulse is feeble" and that "alcohol in all forms should be absolutely prohibited from the onset of the treatment unless there is a marked tendency to heart weakness and collapse." On the other hand the American Text-Book of Surgery says: "The prophylactic treatment consists in the employment of alcoholic stimulants in moderate quantities of capsicum and digitalis, and of nourishing food;" and that, "during the attack mild stimulation with liquor or beer is usually advisable."

As regards the statements of Osler and Berkley, I think it can hardly be gainsaid that in all cases of delirium tremens there is from the very beginning a decided depression of the circulatory system characterized by feeble pulse and other evidences of such depression; and also that unless there is an organic circulatory *lesion*, the degree of feebleness of pulse and tendency to heart weakness is always in direct ratio to the severity of the disease. The advice in the American Text-Book is, it seems to me, much more to the point.

It has been my experience that the symptoms characterizing what has been termed the first stage have invariably disappeared when alcoholic stimulants were given in sufficient quantity. I refer particularly to the tremor, fear and loss of appetite. Ordinarily an ounce of whisky or brandy with half a pint of water is given every two or three hours, the amount being varied of course in accordance with the severity of the symptoms and gradually decreased. The doses should be large enough to control the symptoms and no larger. When it is learned what amount of

alcohol will do this, and the patient begins to eat, diminution should be commenced and continued as rapidly as the condition will permit. The doses can usually be decreased to *nil* in less than a week. If shock from traumatism, exposure or other cause, is present, more alcohol is required than if this complication were absent. If the culminating phases of the disorder have developed before the patient is seen, the outlook is of course not so good, but alcohol is beneficial if the patient will accept it. If he should not, then other remedies must be relied upon. With the return of appetite and ability to retain food the patient should be given as much light nourishment every two or three hours during the day as he can apparently assimilate. Other remedies of value are warm baths, plenty of light and ventilation, and moderate exercise. I think that *nux vomica*, *capsicum* and the bromids are indicated at times. I have seen no good result in these cases from the use of either chloral or morphin, and I am even inclined to regard their use as injurious.

Avoidable Causes of Mortality in Tuberculosis in the Southwest

BY GUY H. FITZGERALD, M. D., ALBUQUERQUE, N. M.

The Rocky Mountain region is well and favorably known to the laity and profession alike for its value in the treatment of tuberculosis. Analysis of the meteorologic conditions reveals no one element to which good results may be attributed, though this section seems to furnish a combination of favorable conditions under which cases recover. Each year brings an increasing number of health-seekers, many of whom are doomed to disappointment and failure. As the majority of these patients never go to sanatoria, this discussion concerns the mistakes and errors into which so many fall and which add needlessly to the mortality rate. The wide prevalence of these errors is the only excuse for calling attention to them.

The mortality here as elsewhere is greatest among the late or advanced cases. Those individuals with cavities, septic fever and extreme emaciation rarely find anything to benefit them in the high tablelands or mountains. The progress of the disease often seems to be accelerated and a sojourn here to be baneful rather than beneficial. The long hard journey, with the search for proper accommodations when here, only adds to discomfort and hastens the end. The ill effects of altitude on these patients is soon felt, and they face the alternative of returning home or of

remaining here to die. If a patient refuses to stop work and seek proper attention when the diagnosis is made, and defers looking after his health until he is forced to give up through weakness, he has himself to blame for bad results. The profession, however, is not entirely blameless. Through haste, carelessness or the disinclination to plunge into the details and work necessary, the opportunity of making an early diagnosis is often lost. Early recognition of the disease is of vital importance to the patient whatever plan of treatment is to be followed. Careful study of a case with repeated examinations of the chest and sputum will often give a patient as much as a year's lead in his fight for health. A year or even six months may mean the difference between success and failure.

The disease is so common and its onset so varied that an early diagnosis is difficult. Minor points may be overlooked. Close questioning may be necessary to bring out the fact that a patient coughs even slightly. Little sputum may be raised, but examination of this sputum at intervals so long as there is anything suspicious about the case will usually show the presence of tubercle bacilli sooner or later. Meanwhile, if either râles or roughened breath-sounds with some resistance on percussion persist and fail to clear up, we have valuable evidence in making a diagnosis. When the disease has progressed so that the clinical picture is complete, the case is no longer a very early one. If there is daily fever, an accelerated pulse, and if dulness, high-pitched breathing, increased fremitus and râles may all be clearly demonstrated over even a small area, we may be assured that the amount of lung involved is greater than the physical signs would lead us to think. The presence of blood in the sputum is a danger signal which is often overlooked. This is sometimes the earliest and only symptom in a patient who seems to be in robust health. If the source of the blood cannot be definitely located in the mouth, nose or throat, the lung is probably to blame. Careful examination of the chest may reveal no signs, while if the sputum is examined immediately tubercle bacilli may frequently be found when later search will be disappointing. Many patients give a clear history of a small hemorrhage preceding any other symptom by some period of time, and have been told to pay no attention to it as the nose or throat was *probably* the source. No measures were taken to protect health until other well-known symptoms developed, and thus much valuable time was lost. An early diagnosis is as essential in pulmonary tuberculosis as in uterine carcinoma.

Over-exertion in its various phases claims more victims than any other one avoidable factor. Patients who have been leading sedentary lives at home, on coming west plunge into more or less violent exercise and over-do. To many the west means freedom and action, and even though it entails fatigue and aggravates all the usual symptoms, an active life is persisted in. Home advice is forgotten and the aggressive patient endeavors to wear out the disease by muscular work. Horse-back riding, long tramps, games, amusements and light employment, even if out-doors, call for more energy than the average case can stand. The rarified air of an altitude increases the work for both heart and lungs, and exercise here should be allowed more cautiously than at a low level. Absolute rest in the presence of fever is a safe rule, though some few rare cases do better with light exercise even when there is some fever. In the absence of fever the amount of exercise should be carefully graded and cautiously increased as indiscriminate exertion too often brings back the whole distressing train of symptoms. Patients who learn the value of rest through unfortunate personal experiences in over-exertion pay a high price for the knowledge.

The west is sometimes regarded as a place where morals are lax and freer play may be given to all passions. Not only are home vices imported, but they are increased by additions from the new ones encountered. Temperance in all things may have been practiced at home but restrictions are too often unobserved here. Reckless living stands high as a cause of fatalities. Late hours, irregular meals, drinking, gambling and kindred evils levy a heavy tax. One hour of exciting card-play may cause a rise of several degrees of fever, and this excitement is as harmful as muscular exertion, and the nerve exhaustion is greater. Patients place too much confidence in climate and disregard the common sense rules of health. Others knowing the ill-effects of such a life recklessly forget their troubles in the cup. Curt pointed advice before leaving home would save many from these errors.

Melancholia, worry and fretting over their condition and future out-look form another large class of failures. Home-sickness with its depression and ill-effect on the general health causes great misery and mental suffering. In the face of such unfavorable conditions little material gain in health can be made. Those unable to live away from home and friends, content and satisfied, are better treated at home. The journey west is not a

pleasure excursion, and some hardships must be met and cheerfully endured. The patient who has been plainly told his condition and what he has to face and who realizes that a long and tedious convalescence is ahead, is less likely to fall into depression than one induced to go west through false coloring of conditions there.

The number of patients who take up the various "cures" or follow some fad in the hope of benefit is much larger than at first thought would seem probable. Even when under medical surveillance well-written "ads" impress the credulous, and a course of treatment is often taken surreptitiously. Nearly all cures are harmful if persisted in, especially to the digestive functions. Fellow sufferers are usually quite ready with advice, and the patient may load up his system with tonics and stimulants whose reckless use leads to but one result. A danger too lies in the patient pinning his faith to the cure or system to the neglect of proper hygienic living. The laity are as eager to find a specific and are even more credulous and ready to experiment than the profession.

A patient often brings with him a list of prescriptions from his home doctor which are refilled and taken during his stay. Specifics, such as creosote or its preparations, are obviously best administered under careful supervision if untoward effects are to be avoided. Tonics may be harmful when used indiscriminately as many of them contain strychnin and over-stimulation is easily reached in tuberculosis. The usefulness of wines, brandy or whisky is limited, and yet a certain class persist in taking large amounts regularly. The character of cough and expectoration changes materially as a rule after a short residence in a dry atmosphere. The sputum becomes more viscid and tenacious as the quantity raised decreases, and codein or heroin no longer give the same relief experienced in a moist air where expectoration is free. Syrup cough mixtures are often continued after digestion is disturbed and relief is sought by taking some preparation of pepsin. The latter is used persistently to give relief from radical errors in diet. Atropin and kindred drugs are used to control night-sweats, to the detriment of the secretions and general health when too much cover and heavy night clothes or an illy-ventilated room is a frequent cause. The patient, left to his own devices, seeks relief from the various symptoms as if they represented so many different diseases, having little or no idea of their relation to his trouble. It is not uncommon to see a patient taking six or more different medicines daily.

Lack of sufficient means forces many who would otherwise recover to give up the fight. It is the highest type of cruelty to turn a patient loose among strangers and compel him to earn his daily bread. Few are physically able to endure the strain and others are unable to find suitable employment. Patients who cannot afford to remain idle some months will fare much better if treated at home. The journey west is expensive, and living is high; while this money properly expended at home would bring much better returns. Mental rest and freedom from worry are as essential as physical rest, and the patient who is worried over finances is in no condition to make progress. In attempting to economize by going to the cheaper boarding and lodging-houses, the benefits of climate are more than over-balanced.

The popular idea that some particular place has peculiar climatic advantages suited to every case brings many patients to a location for which they are not fitted. Because a friend has recovered in some locality a patient will frequently remain there when it is doing him a positive injury. Laryngeal cases may thus seek a region where the alkali dust is very irritating and where the winds are high. Those who are sensitive to cold may hug the fire and shiver in the mountains or high tablelands rather than seek the warm sun and out-door air lower down; or strong robust patients may remain where it is low and warm, missing the bracing effects of the cooler air of an altitude. The list of such mistakes might be indefinitely extended.

No medical supervision is the great misfortune of many. Constant medical oversight is considered the main essential in treatment elsewhere and yet here, where it is most needed, the advice has been too often given to throw away drugs, discard doctors and rough it. The pernicious effect of this advice is seen on all sides and the victims are too often beyond help when the mistake is realized. It is disheartening to see the brightest chances of recovery lost through ignorance of the elementary principles of treatment. The physician who handles these cases successfully stands close to his patient and directs even the minor and trivial details of his life. Even then enough indiscretions and errors will be made by the patient at times to thoroughly tax his patience. Patients must learn that climate is but a minor accessory in treatment and that a doctor at home can accomplish more permanent good than they can gather from a trip west with no competent medical supervision while there. Too often the efforts to regain health resolve into a pitiful tragedy of errors.

Department of Therapeutics

CONDUCTED BY J. B. MCGEE, M. D.

Strychnin: In the *Therapeutic Gazette* for September, A. L. Benedict states concerning strychnin that it is the only drug which he uses at all commonly from which a permanent result may be expected without practical danger of deleterious influence and which is nevertheless to be regarded as a purely artificial spur. This statement concerning strychnin implies reasonable care in its use and he summarizes the doses to be used as follows: One milligram ($1/65$ grain), t. i. d., tonic dose for small adult with no indication for marked effect; two milligrams t. i. d., tonic dose or ordinary dose for gastric atony, secretory or motor, or for chronic cardiac weakness, functional or organic; two milligrams five or six times daily, dose for marked cardiac weakness either in medical or surgical cases; in the latter to gain strength rapidly before operation or to prevent collapse afterward. This dosage should rarely be maintained for more than three or four days; three to four milligrams, single emergency dosage in acute heart failure. He rarely continues strychnin or any other powerful drug for more than two weeks, and usually for only one week without interruption. This method not only prevents the development of toxic symptoms, but it seems to add to the effect. He has never seen the cumulative action of strychnin, even in renal diseases, nor evidence of diminution of urinary function nor exacerbation of organic changes in the kidneys. A very valuable attribute to strychnin is that it can readily be given hypodermically even for a considerable period. The other heart tonics, on the other hand, are not well adapted to administration except by the mouth.

Apomorphin: E. R. Shannon, in *American Medicine*, has had most satisfactory effects by the administration of apomorphin in hysteria as recommended by Gowers. He has also found it in $1/20$ grain doses to control severe hiccough. In the case reported, a man of 76, this dose although relieving the hiccough produced alarming heart weakness, and when repeated $1/30$ grain was found sufficient. He has also found two other conditions in which this drug has been uniformly useful, the insomnia of acute alcoholism and in angina pectoris. The dosage should be as light as possible, preferably to secure nausea without emesis. Ordinarily three milligrams ($1/20$ grain) hypodermically is about the proper dose, though in old people this may be too much. In the whole domain of medicine, he states that no drug has given him so much satisfaction as this.

Gelatin: The *Medical Council* for September calls attention to the fact that it has lately become evident, from independent investigations of different observers, that gelatin may contain spores of tetanus. Hence the danger of the introduction of this

disease with the gelatin injection. Experiment has shown that the heating of gelatin to a temperature of from 100 C. to 120 C., and so maintained for 40 minutes will destroy tetanus spores. This prolonged exposure to heat does not. It also advises in tetanus the use of the hypodermic injections of two to three percent carbolic acid. The mortality from carbolic acid treatment of the disease is less than 10%, whereas that from any of the others ranges from 60% to 80% or higher.

Acetanilid: In the *Medical World* for October, J. B. Claypool reports a case of acetanilid poisoning by absorption through the skin. In the case of burn on the face of a child a little more than a year old, in which there was not more than four square inches superficially burned, he applied a dusting powder of acetanilid and boric acid, covered with sterilized gauze. Within three hours he found purple hands and face with very weak pulse and the body covered with purple spots. Recovery followed the immediate removal of the powder and bathing with the use of stimulants. T. W. Luce in *American Medicine* for September 26, reports two cases of the acetanilid habit. In one case the patient began by taking acetanilid for ovarian pains. The patient was considerably emaciated, the legs and feet were very edematous, the heart action was weak and irregular, the mucous membrane of the mouth and vagina was blue, and the skin and conjunctivas were very white. The clinical picture was almost typical of the advanced stages of parenchymatous nephritis. In the other case edema and emaciation were present, the mucous membranes were blue, and albumin was present in the urine. Rest and tonics with constant watchfulness were followed by recovery. The doctor reports the case as the growing tendency among the laity to use such preparations for headache and pain. This may lead to the formation of such a habit. Unlike the opium, cocain and chloral habitués, these cases reported were soon over the craving, and no depression followed the withdrawal of the drug, and there was no inclination to return to the habit after recovery.

Cardiac Drugs: O. T. Osborn, in the *Medical News* for September 19, states that the queen and peer of all cardiac tonics is digitalis, and the heart should rarely be slowed by digitalis below 60 beats per minute. If it is slowed beyond this point, or there is a feeling of constriction in the head, or there is a distinct reduction of the amount of urine passed in 24 hours, or the pulse becomes irregular, or there is nausea or vomiting, too much digitalis has been used, and it should be stopped. The conditions improved by this drug are those of chronic weakness from any cause, except when due to myocarditis or to fatty degeneration; also when there is poor vasomotor tone and in cases in which there is edema or exudations with no serious kidney lesions. The contraindications to the use of this drug are a

high tension of the arteries, atheroma, a weak cardiac muscle from prolonged fevers, or from fatty degeneration, myocarditis and ordinarily a serious kidney lesion. Inflammation of the stomach or even severe dyspepsia should cause some other cardiac drug to be substituted. The best substitute for digitalis is strophanthus, and the indications for its use instead of digitalis are (1) when there is need of a cardiac tonic, and digitalis produces nausea, vomiting or too great an increase in blood-pressure; (2) when a cardiac tonic is indicated and the blood-pressure is already high; (3) when a rapidly acting cardiac tonic is desired; (4) when there is more nervous irritability and weakening of the heart than actual muscular debility or incompetency; (5) children are very susceptible to the action of digitalis, and hence strophanthus is many times a better drug for them when a cardiac tonic is indicated. He believes spartein sulphate is not a substitute for digitalis. The indications for its use are irregularity and nervous irritability of the heart, especially when conjoined with general nervousness. He has observed that cactus, when an active preparation is used, will regulate the heart, quiet its nervous irritability and render large doses, or the constant use of strong cardiac tonics, often unnecessary. It does not cause increased cardiac muscular strength as does digitalis. Convallaria and adonidin have been to him unsatisfactory, while barium chlorid, although not much used, should be resorted to more frequently. Strychnin is so much and so well used as only to require the caution that we do not begin its use too soon in acute diseases, rather reserving it for an emergency. Caffein may be used as a cardiac stimulant at any time when such is required. It acts quickly to tide over a period of cardiac depression, but is not as quick in its action in acute collapse as a strong alcoholic preparation or the stimulation of ammonia. If much nervous excitability is present, other cardiac tonics or stimulants should be chosen.

Potassium Copaibate: C. Kolipinski, in *Medical News* for September 12, states that copaiba, popularly and incorrectly called a balsam is an oleoresin. It contains two acid resins, the chief one being copaibic acid, and of the alkalin copaibates he prefers potassium copaibate as being the most stable, convenient, agreeable and certain in its effects. The dose of potassium copaibate is from 50 to 150 grains a day best taken in gelatin capsules, the so-called ten-grain ones. Four to twelve capsules represent the daily amount, and the average man will tolerate two capsules thrice repeated. The untoward effects of the copaibates are similar to those of copaiba, but not so severe, frequent or constant. The course of an uncomplicated case of gonorrhea treated with the copaibate terminates often in complete cure in from one to two months. In an early urethral infection the copaibates if begun at once may in rare examples produce a cure in a few days. The chief merit however is that it reduces the danger of complications to a minimum.

The Cleveland Medical Journal

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EDITORIAL

Paroxysmal Hematuria

To the small number of recorded cases of paroxysmal hematuria, Thompson (*Medical News*, October 3, 1903) adds two more which have recently come under his observation, and includes further an interesting analysis of the literature bearing upon this unusual condition.

It is interesting to note that both cases reported by this observer occurred in males. This is in accordance with the statistics of the recorded cases, as not more than four to five percent of the total number reported occurred in females. In both the cases reported in this interesting article the condition had existed for a considerable period of time and in both individuals there was a suspicious history of syphilis, though proof of its existence was lacking.

As characteristic features of this unusual condition it is worth while noting its long duration, often over a period of many years, the elevation of the temperature during the attack, the occurrence of chills, and the presence of jaundice which is seen in about 15% of the cases observed. The urine analysis alone is distinctive

and diagnostic showing in addition to the hemoglobin an almost constant albuminuria, both paraglobin and serum albumin being found in various proportions. Hyalin and granular casts may also be present, the total amount of blood ingredients voided during an attack is apparently considerable, and may amount to as much as 12 parts (representing blood) in 100. Blood corpuscles are rarely found and were seen but once in case No. 1 referred to above.

It is an interesting observation that there are no constant changes in the blood in this condition, and though one would expect a tendency to the hemorrhagic diathesis in individuals the subjects of hematuria, there seems to be no certain or established relationship between this condition and any of the hemorrhagic dyscrasias. Purpura has developed in a few cases only.

After discussing the various hypotheses which have been advanced as to the cause of this peculiar condition, no one of which seems to bear the burden of proof, this observer submits the following theory, *e. g.*, that it may well be considered a profound neurosis chiefly affecting the vasomotor system and called into activity by exposure to moderate degrees of cold, by muscular fatigue or mental emotion. The renal theory of McKenzie that under great blood pressure in the glomeruli the hemoglobin is liberated is disregarded by this observer as lacking in sufficient support, a fact apparently beyond dispute as there are no post-mortem evidences of distinct renal changes, and in many instances pure functional or emotional excitement has been known to produce an attack under conditions precluding any anatomic renal defect.

In conclusion Thompson calls attention to the interesting observation that horses may suffer from hemoglobinuria, when, following a long period of stabling with high feeding, they are taken out and driven hard or exposed to the cold.

Social Pessimism

It is difficult indeed for us to picture the moral tone of our thousands of growing boys and girls so tragically pessimistic as the recent editorial utterances in our esteemed contemporary *American Medicine* (October 10, 1903) would make them appear. It is perhaps hardly just to question the mental attitude of the writer of these stirring notes, but if such a condition as is here pictured is true we must confess to a sense of surprise and admit

frankly our utter inability to see the situation in quite the same despondent light.

That there is, no doubt, much in our present life which tends to blunt the highest moral instinct may safely be admitted, but we cannot, and do not, believe that the "better and best classes" are responsible for a condition of affairs as black as this portrayal would paint them.

It is also true, that under the influence of certain unfortunate conditions there may and perhaps too often does exist a state of moral tergitude which works harm to those under its influence, but we are not yet willing to believe that the natural and normal relationship between the growing sexes is a thing of the past, and we feel confident that many of our readers will agree with us in our honest difference of opinion from this pessimistic note of warning.

It is perhaps difficult to judge accurately between conditions prevailing today and those of 50 years ago, but as so much stress has been laid upon this difference in the "concomitant factors" of that time and this that we venture to assert that, in certain parts of the country at least, there was far more alcohol consumed 50 years ago than today, and quite as much dancing; though there was not the same wide-spread trashy and worse literature which does as much, in our judgment, as anything else to corrupt the moral tone of the youth of today. We do not, however, accept the statement that our young men and women are being driven "into the snares of profligacy and indecency," and scout the pessimism so rife in this appeal, based, we doubt not, upon a wholly just motive but lacking the cheerful wholesome optimism we are wont to find in this much-valued contemporary.

The New Sanitary Code

At a meeting of the Chamber of Commerce held last month the Committee on Municipal Sanitation presented its new code with the recommendation that it be adopted by the Board of Health. This code represents a very exhaustive study of the demands made necessary in a rapidly increasing community like ours, and if adopted, which we trust it may be, will, even with certain modifications, confer greatly increased power upon the Health Board.

The number of so-called communicable diseases which have been made compulsorily reportable has been largely increased, and includes, we are glad to see, whooping-cough, tuberculosis, and

typhoid fever. The inclusion of puerperal fever in this list is, in our judgment, hardly a necessary one.

While the effort has been made under its provisions to give the Board of Health greater control of public buildings, the public schools, etc., there seems to be no requirement as to the notification of the many communicable, stubborn, and really offensive diseases of the hair and skin so common among our public school children, a matter of vital public importance.

Not the least important part of this code is the attempt made toward regulating the milk-supply of the city. In this regard Cleveland is strangely behind the progressive ways in vogue in a number of cities of the same size.

All in all this new code has much to recommend it to the careful consideration of every sanitarian, physician, and layman, and we sincerely hope that in some form or other it may be adopted, and, what is more to the point, may be enforced.

Laxness of Appreciation of the Dangers to Others

The history of every closely settled community is much the same the world over, and it is undoubtedly true that the ideal goal of the protection of each individual in the community from disease, through a careful regard for the rights of others, is but seldom attained; that far more frequently there prevails a general disregard in the consideration of all but our immediate selves.

Absorbed as we are in the routine of every day competition and in the effort to earn a livelihood, the danger which lurks in the careless disregard of the simplest laws of hygiene, not only to ourselves and to our children, but to our neighbors and to our neighbors' children, is all too frequently overlooked. The number of instances which might be cited in which contagion has been allowed to spread, solely through a careless or ignorant lack of appreciation of the real danger, are legion, and only serve to make our duty plainer and the need for greater control more urgent.

By the adoption and enforcement of such a code as has been alluded to above much will have been accomplished in controlling this danger, a danger not to be made light of, and one which affects directly every taxpayer in our community. Under the circumstances it becomes our duty to lead in a campaign of education and to lose no opportunity to impress upon the laity not only their duty in regard to this question, but a just consideration in every case of illness of a communicable character of the rights of others.

A Public Press Committee

Long ago a proposition was made to the Cleveland Medical Society that it would be an excellent innovation to create a Press Committee which should anonymously contribute to the newspapers articles bearing on current medical and sanitary topics and calculated to enlighten the public intelligence. It is to be regretted that Cleveland is not the first point at which the experiment was made. The New Castle County (Delaware) Medical Society has for some months had such a Committee which is doing excellent service to the profession and to the public. It is difficult to see any objections that can be brought against this plan, provided no names are signed to the reports of the Committee. If the reports are clearly written, and deal with subjects in which the general public has an interest, it certainly would appear that only good can result from the experiment. It is earnestly to be hoped that the Academy of Medicine of Cleveland will at an early date create such a Committee so that we may have a practical demonstration at home of the benefits and possible disadvantages of this proposed plan. Every few weeks subjects are up for discussion in the newspapers, in the City Council, in the Board of Health, and in all sorts of organizations, upon which the organized profession could give its verdict with great resulting advantage to the public.

The Duty of Railroads to the Public

Much has been written, and much has been said, *apropos* of the duty of individual to individual, but what of the duty of public corporations to the great traveling public, which without doubt is often exposed to the danger of infection and disease when traveling far greater than any risk ordinarily run in the discharge of every-day duties?

In this age when so much is being done with a view to eliminating that dreaded scourge tuberculosis from our midst, when millions are being spent for sanatoria, and hundreds, nay, even thousands, of wretchedly ill consumptives are traveling the country over in search of health, it is, indeed, strange that we seem to overlook the potent source of infection for others in the ordinary sleeping-coach of our railroads. It must be apparent to everyone that there is much less danger from this source in the use of the berths and sections in the body of these cars than in the use of the state-rooms, for in the latter the very ill and the advanced cases are almost always carried.

The writer has had not a little illuminating knowledge of this

real danger from a resident of the Adirondacks, himself not a "lunger" as the phthisical patients are popularly known, who always avoids when possible travel by night over certain of the roads of his district, one devoted largely to sanatoria for tuberculosis, and under no circumstances occupies himself or allows any member of his family to occupy a state-room over night.

That certain of the railroads advertise careful cleaning and formaldehyd disinfection at stated intervals, may be reassuring, but it is no absolute security against contagion, and until such time as they do away with the heavy curtains, the stuffed cushions and the elaborate wood work with its countless crevices, the danger from this source must remain more or less imminent. The mere fact that absolute proof of infection under such circumstances is lacking does not lessen the corporations' duty to the public.

Massage in the Treatment of Fractures

The value of massage in the treatment of sprains is too well known to need extended comment. Its application on the other hand in the treatment of fractures is of recent origin. In a strong plea for the more rational treatment of fracture by judicious massage and passive motion, Wheeler states (*Buffalo Medical Journal*, September, 1903) that it is not by these means that bony union is actually hastened, although this may be influenced by the improved nutrition, but that the lameness and stiffness invariably found when a part has been immobilized for any length of time, may be avoided. He discusses particularly fractures of the leg and quotes results observed in Bellevue Hospital, New York. He claims that fracture of the shaft of the fibula may be treated in this way from the start and that by so doing the patient may in two weeks' time walk without having to use even a cane; in Potts' fracture, however, immobilization will be required for 10 days after which time massage may be begun. Too early use of the leg after this injury tends to subsequent weakening of the arch of the foot and although the patient may be able to walk in from two or three weeks, he should not be permitted to do so until four to six weeks. As a general rule massage is indicated so soon as provisional callous is sufficiently firm to prevent actual motion at the seat of injury. The time necessary for this varies with the location of the fracture and the natural splinting of the surrounding structures. When one considers the early passive motion required in fractures about the elbow and wrist it seems that the same treatment should be applicable to the leg.

The Bacillus of Syphilis

A recent contribution to medical literature brings to our notice a new microorganism as the cause of syphilis. Many bacteria have been described by different observers as the etiologic factors in this disease, notably the bacillus of Lustgarten, but none of them have met with the requirements necessary for their acceptance. The present article approaches more nearly these requirements, but still leaves something to be desired. The author, Justin DeLisle, in *American Medicine* for September 19, prefaces his work by a brief summary of other researches, showing that a given disease may be caused by a definite organism, which occurs in the circulating blood, but which cannot be found there unless sought for under special conditions and at special times, instancing malaria and recurrent fever as examples, to which filariasis may be added. He suggests the fact that blood on coagulation sets free a bacteriolytic ferment as an explanation for the absence of positive findings in preparations from syphilitic blood, and also urges the absence of records of syphilis from autopsy wounds in favor of his contention that the organism is present in life but dies with the patient. In this connection it must, however, be said that autopsies on patients in the secondary stage of syphilis are very uncommon, not one having been seen in a series of 500 postmortems in Cleveland.

The work was done at the St. Lazare prison in Paris. Blood was taken fresh from the arm veins of patients in the secondary stages, mixed at once with potassium oxalate to prevent clotting, and was then centrifugalized. The clear plasma was mixed with sterile broth and portions placed in collodion capsules after the methods in use for some years past. These capsules were introduced into the peritoneal cavities of guinea-pigs and allowed to remain there for six to ten days. At the end of this time the capsules are removed, and the uncontaminated ones used for cultures.

The organisms described are bacilli of medium size, with definite and constant staining and culture reactions, and showing a tendency after some days to form small round motile bodies, which the author claims to have seen at times in the circulating blood. These last are sufficiently minute to pass through a Chamberland filter, which takes out all the formed bacilli.

Inoculation of guinea-pigs causes paraplegia, marasmus, abortion, and death within 10 to 15 days. If injected under the skin after a previous injection of weak lactic acid, a hard ulcer is formed, with enlargement of the lymph glands, falling out of the hair, and other symptoms as above. Guinea-pigs inoculated in a similar way with blood from syphilitics in the secondary stage give the same results.

Cultures of the organism are agglutinated by the serum of syphilitics and not by that of healthy persons. Patients with syphilis are immune to inoculations of the bacillus and inoculations of healthy persons have apparently not been attempted.

The conclusions are that the organism is present only in

absolutely fresh blood and can therefore be transmitted only by that medium. This does not seem to be entirely in accord with the clinical facts, where transmission of the disease occurs through the secretion of mucous patches and other external lesions where there is apparently no blood present. It also fails to explain the well-authenticated cases of syphilis *innocentium*, acquired through drinking-cups, towels, etc. No mention is made of such cases, nor is there any discussion of the methods of hereditary transmission, and it seems to us that until these points are cleared up, it will be as well not to accept DeLisle's bacillus as certainly the cause of syphilis, though he has offered better arguments in favor of his organism than have been brought forward by any other observer.

Book Reviews

Organic Nervous Diseases, by M. Allen Starr, M. D., Ph. D., LL.D., Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons, etc. Illustrated with 275 engravings in the text and 26 plates in colors and monochrome. Lea Brothers & Co., New York and Philadelphia.

In the past few years an unusually large number of books on nervous diseases has appeared in this country. In spite of this fact a really good book on the subject is always a welcome addition to the armamentarium of the practicing physician; the ground has been so well worked over that there is hardly room for any book which does not give the experiences and opinions of a careful observer. It is a pleasure to say that this is just what Starr gives us in his book just published.

The division of subjects is a simple one. Only 16 pages are given to the description of the structure of the nervous system. There are 134 pages devoted to diseases of the spinal nerves, 248 pages to diseases of the spinal cord, 227 pages to diseases of the brain, 64 pages to those of the cranial nerves and 38 pages to such general diseases as multiple sclerosis, hemorrhage and meningitis.

Especially in regard to treatment the statements are full and precise. Estimates of the value of therapeutic procedures are conservative but by no means pessimistic. The style is an agreeable variation from that of the typical text-book; it is easy but not too discursive. Condensed statements without verbs, articles or prepositions find no place.

It is a thankless task to point out errors in so good a book, but more careful proofreading would certainly result in a few desirable changes. Doubtless the statement on page 618 that tumors of the brain have been *caused* by the giving of iodids should read "cured." The term "intentional tremor" which recurs frequently is not so clear and compact as the ordinary form "intention tremor." The *beating pulse* found on page 524 should probably be "bounding pulse," etc. Such mistakes are not sufficiently numerous to at all effect the value of the work.

Worthy of note are the sections on localization of brain tumors and lesions of the spinal cord, and on the treatment of locomotor ataxia, of neuralgia and of brain tumor. It is a noteworthy fact that while Starr has seen no good results from electrical treatment in locomotor ataxia, he does not mention the use of static or sinusoidal electricity. Some physicians who have entirely abandoned the old treatment of galvanism have thought that they obtained good results by these other forms. The personal equation of the physician and the suggestibility of the patient are however still to be reckoned with, and the last word has not been said in regard to this method of treatment. Starr's view of electricity in treatment is not by any means a hopeless one, and his opinion carries great weight.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., assisted by H. R. M. Landis, M. D. Volume II. June, 1903.—Surgery of the Abdomen, including Hernia, Gynecology, Diseases of the Blood and Ductless Glands. The Hemorrhagic Diseases. Metabolic Diseases. Ophthalmology. Lea Brothers & Co., Philadelphia and New York, 1903. 8 volumes. 425 pages.

This book, appearing quarterly, is a most satisfactory review of the progress of medicine, the contributors are men eminently fitted for this position, those responsible for the present volume being Clark, Coley, Jackson and Stengel. Each one has covered the ground very completely and summarized the recent work done both in this country and abroad. A limited number of illustrations have been reproduced to aid in the explanation of some new operations; the general appearance of the work is very creditable.

Gynecology. A Text-book for Students and a Guide for Practitioners. By William R. Pryor, M. D., Professor of Gynecology in the New York Polyclinic Medical School; Attending Gynecologist New York Polyclinic Hospital; Consulting Gynecologist St. Vincent's Hospital, New York City Hospital, St. Elizabeth's Hospital. 163 Illustrations in the Text. New York and London. D. Appleton & Company. 1903.

Pryor is one of the leading advocates of the vaginal route in operating upon pelvic lesions in women. Naturally in his book he makes out a strong case for this method as compared with ventral incision. In discussing the relative advantages of abdominal and vaginal hysterectomy in pus cases, many of his arguments are undoubtedly true but others would be questioned by an impartial judge. He holds decided views upon the necessity of thorough curettage followed by packing with iodoform gauze of both the uterine cavity and Douglas' pouch in cases of puerperal sepsis. Panhysterectomy is advised if the uterus is much affected in disease of the lateral structures requiring the removal

of the latter; he believes that the prolapse of the vaginal wall which is frequently seen after the operation can always be prevented by suturing the vaginal vault to the stumps of the broad ligaments. These and other views of his are directly opposite to those held by other good men, and the good results in either case simply show the importance of the personal factor in the case of operative work.

The work is most valuable as being the best presentation of these views, it is well gotten up and profusely illustrated, most of the cuts being original. The bacteriologic and histologic details have been purposely omitted as the author thinks they should be considered in special works on these subjects.

Smallpox (including Vaccination), Varicella, Cholera Asiatica, Cholera Nostras, Erysipelas, Pertussis, and Hay Fever. By Dr H. Immermann, of Basle; Dr Th. von Jurgensen, of Tubingen; Dr C. Liebermeister, of Tubingen; Dr H. Lenhartz, of Hamburg; and Dr G. Sticker, of Giessen. The entire volume edited, with additions, by Sir J. W. Moore, M. D., F. R. C. P. I., Professor of Practice, Royal College of Surgeons, Ireland. Octavo, 682 pages, illustrated. Cloth, \$5.00 net; Half Morocco, \$6.00 net.

This volume of the Nothnagel's series hardly needs an extensive review to bring it to the attention of English and American readers. Dr Moore has edited the monographs of the original in a way that could not have been improved upon, and to those who cannot read German, this translation of Dr Immermann's articles on variola and vaccinia, alone, must always remain of incalculable value. It will be a surprise to many readers to learn that our widely prevalent hay-fever owes its first accurate description to Dr John Bostock, of England, and is here correctly and appropriately called Bostock's summer catarrh.

This volume constitutes a very valuable integral part of the series which is being so ably edited and so well published under Dr Stengel's supervision.

A Text-book upon the Pathogenic Bacteria, for Students of Medicine and Physicians. By Joseph McFarland, M. D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia, etc. With 153 illustrations, a number of them in colors. Fourth Edition, revised and enlarged. Published by W. B. Saunders & Co.: Philadelphia and London. 1903.

The present edition has been brought well up to date, and much increased in contents though not in size, as the type is smaller. The work deals with pathogenic bacteria and their effects on the organism. After a general introduction covering methods and technic, bacteria are taken up in their relation to definite diseases, and the special pathologic anatomy is treated in this connection. Among the good points of the book are the table of ptomains, the chapter on immunity, and the care taken in the critical discussion

of the diseases with uncertain etiology. As a text-book for the average student it contains perhaps too much information for ready assimilation. The illustrations are good and are sufficient.

Medical Epitome Series. Microscopy and Bacteriology. A Manual for Students and Practitioners. By P. E. Archinard, A. M., M. D., Demonstrator of Microscopin and Bacteriology. Tulane University of Louisiana, Medical Department. 74 engravings. Published by Lea Brothers & Co., Philadelphia and New York. 1903.

Beginning with a chapter of instructions as to the arrangement and use of the microscope, the author discusses bacteriology in general, after which comes technic, inoculation of animals, immunity, and the relations of the different bacteria to various diseases. The chapters are followed by series of questions bearing on the preceding text. The sequence is good, and the material fairly well selected, but there are quite a number of unfortunate errors, such as "peritrocha" for "peritricha," "Bacillus dysentericae" for "Bacillus dysenteriae," "Anopheles maculapennis" for "maculipennis," which should have been avoided.

In selection of methods, notably in the preparation of agar and of anerobic cultures, the most elaborate rather than the simplest have been chosen, and in the differentiations between similar organisms, the impression given is that the differences are marked and constant, which is unfortunately incorrect.

The Refraction and Motility of the Eye. For Students and Practitioners. By William Norwood Suter, M. D., Assistant Surgeon, Episcopal Eye, Ear and Throat Hospital, Washington, D. C. Illustrated with 101 Engravings in the Text and 4 Plates in Colors and Monochrome. Lea Brothers & Company. Philadelphia and New York. 1903.

In the first part of the book the author discusses at some length the theory of refraction—the nature of light, reflection and refraction, lenses and their use in ametropia, and the optical principles of ophthalmoscopy, skiascopy and keratometry. Then follows a description of the normal eye, as regards its refraction and also the muscles. These two parts concern the fundamentals and are introductory to the second half of the book.

Under errors of refraction he first describes briefly but clearly the methods subjective and objective used in determining the error of refraction, and then takes up in order the different kinds of errors, hyperopia, myopia, astigmatism, anisometropia and presbyopia. We cannot agree with some of his statements in these chapters. In measuring hyperopia he states that "after the age of 15 years (and before this in case of necessity) homatropin may be used." We do not believe that this drug ordinarily produces complete paralysis not even "when properly applied" that it will "usually be found satisfactory" in patients so young. The prolonged paralysis of accommodation and consequent complete rest to the eyes in itself often has a very beneficial effect which is not mentioned, and not infrequently it is wise to have the young

patient begin wearing the glasses before the effect of the mydriatic has disappeared. Our own experience is entirely at variance with this statement that "after the age of 30 years cycloplegia is not as a rule required," though he does modify this slightly by saying that "even here it may be of material assistance in difficult cases." Under the diagnosis of myopia he states that "a cycloplegic should be used in all cases under 20 years of age and as far as practical in all under 30 years. It *may* be of assistance also in difficult cases beyond this age"—poor teaching for beginners in ophthalmology if they hope to do accurate refraction work.

Under astigmatism he says that "the indication for cycloplegia are the same as in other refractive errors," which apparently means that after 30 years of age no mydriatic is necessary, whereas the measurement of the astigmatism is very uncertain without a mydriatic up to 40 or 45 years of age and is sometimes very necessary even beyond that age. "In high astigmatism total correction will often not be tolerated until weaker lenses have first been worn for some time." He does not state where he draws the line between the lower and higher grades, and the reviewer does not believe that the profession in general would agree with the teaching that partial correction of astigmatism is proper. If the patient under a mydriatic has a compound hyperopic astigmatism, he should not of course receive a full correction of the hyperopia, or if he has a simple hyperopic astigmatism it might be necessary to add a weak concave spherical lens to the cylinder in the manner mentioned by the author, but the strength of the cylinder itself should not be altered.

Wisely, the author has added what is too frequently omitted in works upon refraction—several chapters upon the muscles, and has thus properly recognized the close relationship between the refraction of the eyes and their muscular equilibrium, a fact which is unfortunately too often overlooked or neglected. The book contains numerous illustrations, is well printed and with the exception of a few statements such as those mentioned can be heartily commended.

The Practical Medicine Series of Year Books comprising ten volumes, issued monthly, Gustavus P. Head, M. D., General Editor. Volume VIII Materia Medica and Therapeutics, Preventive Medicine, Climatology, Suggestive Therapeutics, Forensic Medicine, edited by George F. Butler, Ph. G., M. D., etc. Year Book Publishers. Chicago.

This is one of the very best abstracts of the yearly literature on the subjects of which it treats. Although quite concise it embodies much and covers the ground outlined very thoroughly. It is one of a series of 10 issued at monthly intervals and principally for the general practitioner. It treats quite fully all the newer remedies of value, physical and pharmaceutic, which have been brought to the notice of the profession during the past year containing much of practical worth. The subjects considered receive ample attention and the work presents a very satisfactory summary of the year's progress.

The Diagnosis of Diseases of Women—A Treatise for Students and Practitioners. By Palmer Findley, B. S., M. D., Instructor in Obstetrics and Gynecology, Rush Medical College in Affiliation with the University of Chicago; Assistant Attending Gynecologist to the Presbyterian Hospital, Chicago. In one 8mo. volume of 500 pages. Illustrated with 210 engravings in the text and 45 plates in colors and monochrome. Lea Brothers & Co., Philadelphia and New York, 1903.

The special plea for the recognition of this book lies in the attention paid to the pathologic appearances both gross and microscopic, a feature which until recently has been noticeably absent from gynecologic text-books. Since the symptoms of pelvic lesions are often misleading, the author believes that the investigation of the condition from the pathologic standpoint is the more important.

The title would indicate a consideration of gynecology as regards diagnosis alone, but the appropriate methods of treatment are often indicated. The appearance of the work is very attractive, and is profusely illustrated, many of the cuts being original while the others are selected from the best authorities.

Modern Materia Medica and Therapeutics. By A. A. Stevens, M. D., Lecturer on Physical Diagnosis in the University of Pennsylvania, etc. Third Edition. Entirely Rewritten. W. B. Saunders & Company, Philadelphia, New York and London. 1903.

This is the third edition of this work and is practically rewritten. The classification employed follows the pharmacologic action of the drugs, the author considering this arrangement preferable to the alphabetic order formerly employed. The greater portion of the work is devoted to materia medica, and nearly 40 pages describe remedial measures other than drugs. Under the head of therapeutics the treatment of various diseases is well and compactly summarized. Incompatibility in prescriptions is presented in a brief but practical article, and the volume is to be recommended as an excellent guide on the subjects of which it treats.

Medical Jurisprudence, A Manual for Students and Practitioners. By Edwin Welles Dwight, M. D., Instructor in Legal Medicine, Harvard University. Lea Brothers & Co., Philadelphia and New York.

The author of this satisfactory little manual disclaims in his preface any attempt to treat the subject exhaustively and states that this volume is intended only as a brief compendium of the facts in connection with legal medicine which should be a part of the knowledge of every practicing physician.

It contains a vast amount of information concisely and systematically arranged covering this subject very fully within its predetermined limitations. We know of no other single volume upon this subject which gives so much in so small a compass.

The American Illustrated Medical Dictionary. A New and Complete Dictionary of the Terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry and the Kindred Branches, with their Pronunciation, Derivation, and Definition, including much Collateral Information of an Encyclopedic Character. By W. A. Newman Dorland, A. M., M. D., Assistant Obstetrician to the University of Pennsylvania Hospital; Editor of the American Pocket Medical Dictionary; Fellow of American Academy of Medicine. Together with new and elaborate tables of arteries, muscles, nerves, veins, etc., of bacilli, bacteria, diplococci, micrococci, streptococci, ptomaines and leukomains weights and measures; eponymic tables of diseases, operations, signs and symptoms, stains, tests, methods of treatment, etc. Third edition, revised and enlarged. Philadelphia, New York, London. W. B. Saunders & Company, 1903.

This convenient dictionary has proved very popular in the three years since it first appeared; in the interval it has been revised twice, each time with the addition of a large number of new terms. The majority of the new words relating to immunity are to be found under "Theory" (Ehrlich's side chain), a most unlikely place and one not even suggested by a cross reference under "immunity." The new familiar "amboceptor" does not occur as an independent word in the text, nor can "electron," "metreurynter," "metreuryasis," "stegomyia," etc., be found, all of which surely deserve a place; "acetozone" and "argyrol" might also be included. There are a number of full-page colored plates, enough to warrant the use of the word "illustrated" in the title. The appearance of the book is very neat and the size is very convenient for ready reference. The work will prove most useful as it has done in the past.

The fifty-second semiannual meeting of the Miami Valley Medical Association was held at Loveland on October 13. B. H. Blair, of Lebanon, read a paper on "The Medical Society and Medical Progress;" N. P. Dandridge, of Cincinnati, delivered an address on "Fractures of the Neck of the Femur with a Report of Special Cases;" E. S. Stevens, of Lebanon, read a paper on "The Late Developments of Puerperal Eclampsia;" Brooks F. Beebe, of Cincinnati, and H. Fischer, of Lebanon, also read papers.

A notorious political quack of this State who has persistently jeered at the medical profession and who has loudly boasted that he had discovered an unfailing method of curing disease has just given a funny demonstration of his "powers." By a system of silly fasting and freak exercise he alleges that he had cured himself of asthma and numerous other ills that the doctors of course could do nothing for. Although looking cadaverous he bragged noisily of his emancipation from disease. Recently he was billed for a number of political speeches but soon there came the announcement that "asthma, his old enemy, had closed in on him," and another vaunted "cure" was exploded.

Medical News

Lorain boasts of 42 doctors.

C. H. Wittenbrook has located in Beallsville.

Dr Farber, of Cleveland, has located in Grafton.

Russell H. Quick left Toledo for a year's study in Vienna.

T. L. Miller, of Galion, was badly hurt in a runaway recently.

R. C. Kinniman returned to Ashland after a ten days' visit to Chicago.

S. G. Taylor, of Winchester, has had a finger amputated, due to an infection.

B. R. Miller, of New Washington, has changed his location to Chicago, Ohio.

M. G. Baldwin has returned from his studies in Europe and will open an office in Toledo.

Dr Prichard, of Columbus, and Miss Lydia Fishinger, of Hilliards, were recently married.

W. V. Anderson has been chosen to succeed Dr Walker as workhouse physician at Toledo.

Charles W. Millikin was elected chairman of the Democratic Executive Committee at Akron.

William E. Kerr has decided to locate in Steubenville and has opened offices in the Sidney block.

M. H. Collins has returned home to South Charleston after a seven months' sojourn in Europe.

Fred J. Harrison, of Cambridge, and Miss Martha Craig, of Washington, were married recently.

During the summer modified milk was supplied to eighty sick infants of Cleveland free of charge.

M. F. Hussey, of Sidney, has been appointed County Surgeon for the Western Ohio Railway Company.

Wade K. Chamberlain, of Tiffin, who has been seriously ill for several weeks, is rapidly convalescing.

A. F. Sheibly, of Ottawa, was chosen chairman of the senatorial committee of the thirty-third district.

Anthrax has appeared among many of the cattle at Hudson. Twenty head of cattle have been ordered killed.

W. H. Hogue has removed his family and belongings from Berne to Beverly, where he will resume practice.

The roof of the Protestant Hospital, of Columbus, may be turned into a garden for the cure of consumption.

W. D. Cunningham, of Girard, was thrown from his horse and sustained severe injuries to his left shoulder.

The third bulletin of the Ohio Society for the Prevention of Tuberculosis is completed and is now in circulation.

Amos Sherk, of Findlay, went to Rawson and opened offices in the rooms formerly occupied by the late Dr Baker.

The second meeting of the Association of Assistant Physicians of the Ohio State Hospitals was held at Toledo.

H. M. Brown, of Ashtabula, arrived home from Cleveland where he has been recovering from an appendectomy.

Benjamin Kimmel, an aged physician of Youngstown, met with a painful accident while riding his bicycle recently.

J. S. Sweeney, of Ravenna, has been elected justice of the peace to fill the unexpired term of J. F. Jacobs, deceased.

T. H. Armstrong is quite ill at his home in Bellaire. He has been in feeble health for some years and two weeks ago suffered a relapse.

The medical profession of Springfield held a local meeting on October 20. The topic for the evening was "Cure for Hemorrhages."

The Fairfield County Medical Society met at Lancaster on October 20. Obstetrics was the subject for discussion at this meeting.

H. J. Sheppard, of Zanesville, has been reelected grand medical examiner for the State of Ohio for the United Ancient Order of United Workmen.

On account of the expense, the Toledo police department are very anxious to transfer the maintainance of the public ambulance to some other department.

W. A. Hobbs, of East Liverpool, has received notice of his appointment as surgeon of the C. & P. R. R. He will assume his duties in this connection at once.

R. C. Heflebower, of Cincinnati, has returned home after a five months' visit to Denmark during which time he acted as assistant to Niels Finsen, the discoverer of the Finsen-rays.

The Eastern Ohio Homeopathic Medical Association while in session in this city on October 21, passed a vote of thanks to Mayor Tom L. Johnson in recognition of his services to homeopathy.

Walter W. Brand, Health Officer of Toledo, has been honored by the appointment to the vice-presidency for the State of Ohio of the American Congress of the Society for the Prevention of Tuberculosis.

The Crawford County Medical Society met in regular session on October 22 at Galion. C. D. Morgan read a paper on "Chronic Bronchitis and Grip." A. A. Starner read a paper on "Tuberculosis of Bones and Joints."

Frank M. Smallwood, of Chillicothe, while on a lake voyage, suffered, from the meagre reports obtainable, a stroke of paralysis. He was taken first to Alpena, but that city having no hospital he was conveyed by train to Detroit.

The Wood County Medical Society held an interesting and profitable meeting in September, at Bowling Green. Papers and clinical cases were discussed, and a large attendance was noted. Two new members were taken into the Society.

The Lawrence County Medical Society held a meeting at Ironton. William S. Eckman, the president, presided at the meeting and the session proved a very profitable one. A number of very highly interesting papers were read and discussed.

The regular monthly meeting of the Champaign County Medical Society was held at Urbana. The Society will hold its next meeting on the second Thursday in November at Urbana. Dr Houser, of Millerstown, will read a paper on that occasion.

The monthly meeting of the Columbiana County Medical Society was held at Lisbon. Physicians from all parts of the county were present. A. L. Cope, of Winona, and W. E. Morris, of Lisbon, reported cases. Several interesting clinical cases were freely discussed.

G. A. Harman was tendered a reception on his return home from California by the different patriotic organizations of Lancaster. Dr Harman was honored at the G. A. R. Encampment just closed in California by being elected Surgeon General of the National G. A. R.

The Columbus Academy of Medicine held a regular meeting on October 20, the topic for the evening being the discussion of typhoid fever. G. M. Waters and J. H. Dunham took part in the discussion. D. R. Williams and M. D. Fitch were elected to membership in the Academy.

Owing to the fact that the requirements are much more severe than heretofore and that the fees have been materially increased, comparatively few freshmen have entered the Ohio Medical and Starling Medical Colleges. This is true of all the medical colleges in Ohio this year.

The eighty-seventh quarterly meeting of the North Central Ohio Medical Society met with the Knox County Medical Society at Mt. Vernon. The program of the afternoon was very interesting and consisted of papers read by J. M. Burns, of Mansfield; J. C. Oliver, of Cincinnati, and J. F. Lee, of Mt. Vernon.

The Columbus Board of Health at its September meeting decide to postpone the appointment of district physicians until the finance committee can ascertain whether or not there is enough money available in the sanitary fund to pay their salaries to the end of the year. In the meantime what becomes of the sick poor?

The Stark County Medical Society held its first meeting of the fall session at Canton. An interesting paper on "Puerperal Eclampsia" was read by L. E. Flickinger which brought forth a very animated discussion. E. G. Williamson, of Massillon, read a paper and medical cases of interest were reported by C. F. Schlitz and Dr Talmage.

The Columbiana County Medical Society met at East Palestine on October 13. The following physicians were received into membership in the Society: Frank Scott, Rogers; E. C. Louthan,

Clarkson; P. C. Hartford, J. M. Van Fossan, G. O. Rowland and W. A. McCommon, all of East Palestine. The next meeting will be held the second Tuesday in November, at East Liverpool.

The great Cooper likes Cleveland so well that he announces that he will remain here. A heretofore respectable office building is to be his business home. He says nothing about "slugging" or about administering artificial tapeworms in gelatine capsules just after the "worm medicine," but he does announce that he will "treat" diseases. Talk that he should be prosecuted and driven from the city is quite general but it seems "nothing but talk."

Deaths

James T. W. Kerns, a well known physician and widely known member of the Masonic fraternity, died at Bellaire.

Peter S. Greenamyre died at his home in Orrville recently. Dr Greenamyre was born in 1836 and for many years practiced in Smithville.

C. E. Warren died of heart disease at his home in Round Bottom. Dr Warren was well known in Marietta where he practiced for some time.

D. B. Cotton, for many years a prominent and highly esteemed practitioner of Portsmouth, died recently. He graduated from the Jefferson Medical College, Philadelphia, in 1856.

Albert Dickerson, of New Athens, died very suddenly after inspecting a gas well. Whether his death was due to some cardiac affection or to the inhalation of gas can only be conjectured.

Basil Brown Brashear, M. D., died suddenly in Marlboro, Maryland, October 2, 1903, at the age of 82 years.

Dr Brashear was a descendant of one of the early Huguenot settlers in Maryland, and was born in Bransville, Pa., in 1822. He studied his profession in the Medical College of Baltimore, taking a post-graduate course at the College of Physicians and Surgeons, New York. He practiced medicine in Tuscarawas County, Ohio, until the breaking out of the Civil War when he entered the service of the government as surgeon of the 16th Regiment, O. V. I. His surgical skill and executive ability were soon recognized, and in 1863 he was appointed Surgeon-General of the 13th Army Corps, and in 1864 he was made Medical Director of the Department of the Gulf, with headquarters at New Orleans. After the close of the war he practiced his profession in Pittsburg, Pa., and Akron, Ohio, from which latter place he was called to a chair in the Cleveland College of Physicians and Surgeons. In 1898 he retired from active practice, and spent his winters at Atlantic City and his summers in travel. He had retained his bodily and mental vigor to a surprising degree and his sudden death while on a visit to the home of his ancestors was a great shock to all who knew him.

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Wounds From Blank Cartridges

OBSERVATIONS UPON 16 CASES CARED FOR AT LAKESIDE HOSPITAL,
TOGETHER WITH A BACTERIOLOGIC REPORT

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and A. I. LUDLOW, M. D., CLEVELAND

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About the fourth of July, of this year, a very unusual number of casualties were reported resulting from the firing of toy pistols. There was nothing unusual in the weapon itself, but the report made by the explosion of the cartridge seemed much louder than that which had formerly resulted from similar explosions. The shell of the cartridge itself is of brass. The nature of the explosive has not been determined. It seems, however, to possess unusual power. The number of injured patients who were brought to Lakeside Hospital suffering from wounds made by these blank cartridges was 15. There was one additional case of a wound of the hand by a sky-rocket. In the 15 mentioned injured by blank cartridges, the wounds were distributed as follows: There was one of the abdomen, one of the scrotum, one of the finger, and 13 of the hand. All of the wounds save one presented the same general characteristics. The wound of the abdomen was somewhat peculiar, and may, therefore, be described by itself. The patient, a boy of 10 years, was playing with a toy pistol. He had on trousers and a shirt. The explosion of the cartridge produced a wound on the left side of the abdomen. The external wound was small and seemingly superficial, and the boy did not seem to be seriously injured. I saw the boy on the morning of the fourth day following the injury. At that time there was a small wound the size of a slate pencil about three inches to the

left and a little above the level of the umbilicus. The abdomen was decidedly tympanitic, and there were evidences of peritonitis. A very grave prognosis was given, since it was evident that the peritonitis was already far advanced and the boy's condition was extremely serious. An anesthetic was administered and a small incision was made at the point of injury. It was found that the wound had penetrated the abdominal cavity, and that immediately behind it lay a coil of gut which had been so damaged that the integrity of its wall was destroyed. Immediately against the wall of the intestine was found the black wad of the cartridge. This wad had preserved its original form. The damage to the gut was so great that repair was impossible. The gut, therefore, had to be drawn into the wound, and an artificial anus was made. Notwithstanding what was done, the boy continued to fail, and died from general peritonitis the same day. This case has been reported first because it is unique, and also because it shows the explosive power and danger of these cartridges.

The wounds of the hand were almost all located in the palm. In all of them, so far as could be judged, the muzzle of the pistol must have been held close to the hand. The external injury was slight in most cases, consisting of a small irregular opening through the skin. On enlarging the wounds it was found that the channel broadened from the point of entrance, so that the wound in the interior of the hand was much larger than that of the integument. The wound extended, in some cases, almost the entire length of the hand, and in others penetrated the hand so that the wound passed from the palm of the hand upward between the metacarpal bones, and it was manifest that the back of the hand was involved in the injury.

The method of treatment pursued in the cases treated in the hospital was to anesthetize the patient, to lay the wound open thoroughly, to excise all lacerated and discolored tissue, to disinfect it with the utmost thoroughness, and to pack it open with iodoform gauze. In the majority of cases thus operated upon the wad of the cartridge was found intact in the deepest portion of the wound.

The cases treated in the hospital have been gathered under two heads, first, those which recovered without serious symptoms, and, second, those which died from tetanus. Omitting the case of wound to the abdomen, there were nine injured hands, which virtually received their primary treatment in the hospital. The wound of the injured finger alluded to above had been carefully washed, the opening packed with gauze, and had been repeatedly

soaked with carbolic acid before admission to the hospital, 12 days after the injury. The treatment which the hands had received previous to admission to the hospital had in all cases been superficial dressings. In none of these nine cases had the wound been opened or excised before admission to the hospital. The length of time which the wound had existed before admission to the hospital was as follows: Three had been injured less than 12 hours, six had been injured two days, and one had been injured nine days. In addition to treatment by excision and packing with iodoform gauze, as stated above, two cases, *viz.*, one of my own and one of Dr H. A. Becker, received prophylactic treatment by the injection of serum. Every one of the 10 cases treated in the hospital by the method described recovered.

The second class of cases were those which developed tetanus. There were five of these. Four had injuries of the hand and one had an injury of the scrotum. The previous treatment of these cases had been as follows: In four of them an incision and counter-opening had been made, how long after the receipt of the wound it is impossible to say. In no case, however, had the patient been anesthetized or the wound excised and cleared out. The development of tetanus occurred in one case six days, in two cases seven days, and in two cases eight days after the receipt of the wound. All cases developed trismus and the deaths occurred in from 12 hours to four days after admission to the hospital. The treatment given in these cases was as follows: In all cases the wounds were opened under ether and excised. All these cases received treatment by intermuscular injection of antitetanic serum. In one case antitetanic serum was injected, in addition, into the lateral ventricles, through an opening made above them in the skull. In addition to this the patients received antispasmodics and anodynes to control the violence of the spasms, and to some of them chloroform was administered to relieve the suffering. The case in which the injection of antitetanic serum was made into the lateral ventricles of the brain lived for four days. No other patient lived longer than 48 hours.

There is a two-fold reason for presenting this series of cases to the Academy, the first is their professional interest, and the second their public importance. The professional interest of the cases depends upon various factors. The first of these factors is that although the external wound caused by the wad of a toy pistol is small, the injury to the deeper structures is much more extensive than one would be led to anticipate from what appears upon the surface. The wounds are relatively greater than those

which have resulted from the toy pistols heretofore, and are also far greater than those which are produced by the ball of an ordinary pistol. Another factor of importance is that the serious symptoms in the cases did not develop at once. The wound may remain quiescent for some days, presenting no conditions which would give rise to serious apprehension. Later it becomes evident that there is deep inflammation, either upon the side of the hand which is wounded or upon the opposite side. The appearance of serious symptoms on the opposite side of the hand in several cases of tetanus treated in the hospital had resulted in counter-openings being made previous to their admission. In none of the cases in which tetanus developed had anything further been done than to make counter-openings or to incise the original wound. In no case had the original wound been cleared out and excised under an anesthetic. The cases primarily operated upon in the hospital were, in all excepting a single instance, brought in the hospital within 48 hours after the injury. The one which did not enter the hospital until the ninth day after injury was a case of a wound of the finger. The wound had been cleaned out and packed with gauze although it had not been excised.

Although the number of cases is too few to permit of any positive conclusions as to the exact time after which it is impossible to avoid tetanus by excision of the injured tissues, the facts pointed out in these cases as to the length of time which the wound existed before treatment had been undertaken in those which recovered and in those which later developed tetanus, are most instructive.

The patients treated primarily in the hospital were generally cared for under the supervision of the resident surgeon, Dr Sanford, and to him largely is due the credit for the successful results obtained. In all the cases treated primarily in the hospital the patients were anesthetized, the wounds were laid open, excised, thoroughly cleansed and packed open with iodoform gauze. It seems, therefore, that this treatment must have been a large factor in the results obtained. To what part of the treatment the success is due is, of course, a matter of uncertainty. It may have been due to the thorough cleansing of the wound, but inasmuch as the bacillus of tetanus is an anerobic growth it seems that the success of the treatment may have been due to the fact that by packing the wounds thoroughly open there was a free access of air to every portion of the wound and, on this account, the pathogenic germ failed to develop.

With this idea in mind an attempt was made to gain some

added information by means of experiments conducted upon animals. These experiments have been carried on by the second resident surgeon, Dr Ludlow, and will be detailed in a paper which he will read this evening. Without anticipating what Dr Ludlow has to say in his paper, it is perhaps proper to state that the experiments have not been so successful in demonstrating the effect of treatment as had been anticipated. It is our intention to conduct these experiments further if it is found feasible to do so. Our idea in conducting the experiments was that if animals could be regularly inoculated with tetanus by shooting into them the wads from cartridges of toy pistols, it might be possible to demonstrate in a considerable series of cases that this development of tetanus could be avoided by certain treatment, *viz.*, first by cleansing of the wound, second, thoroughly incising and excising it, and third, by packing it wide open with gauze and giving the air access to it. We have not, however, been successful in producing tetanus in animals by shooting them with the toy pistol.

There remains of course the open question in this connection as to whether the wad of the cartridge, the explosive of the cartridge, or the dirt which gained access to the wound at the time of or subsequent to the injury, is the source of infection. This also is a question which we have not thus far been able to solve.

The conclusions which it seems proper to record as the result of our observations are, first, that the cartridges of the present toy pistol are far more dangerous than those which were formerly used, and that the wound which is produced is far more extensive and more prone to produce tetanus. It seems also strongly probable from the fact that all cases treated primarily in the hospital by excision and open drainage recovered, that this treatment is one to be recommended highly, although it cannot yet be said that it is an absolute guarantee against the development of tetanus. The fact that five cases not so treated developed tetanus and that ten treated in this way did not develop tetanus is a strong recommendation for the treatment.

The vast amount of injury done by the toy pistol in Cleveland and in other cities of the United States, in July last, would seem to demand that scientific bodies, like our own, should point out in an authoritative way to the governing boards of our various cities that the manufacture and use of pistols of this kind should be absolutely prohibited.

CASES ENTERING HOSPITAL WITH TETANUS ALREADY DEVELOPED

Name	Age	Injury	Date Injury	Entered Hospital	Previous Treatment	Condition on Entrance	Treatment	Result
C. C.	26	Blank Cart. Wound Hand.	23 June.	30 June	Superficial dressing. Counter-opening dorsum. Wound not cleaned out.	Trismus—Spasm neck muscles.	Serum { Intra-cranial. Carbolic acid, Anodynes, Antispasmodics. Wound excised under ether	Death in 4 days.
B. S.	8	Blank Cart. Wound Scrotum.	4 July	10 July	Wound not cleaned out.	Trismus—Spasm neck muscles.	Wad removed from Scrotum. Serum—Antispasmodics. Anodynes.	Death in 12 hrs
N. G.	18	Blank Cart. Wound Hand.	3 July	11 July	Poultice to wound. Incision later. Wound not cleaned out.	Trismus.....	Wound excised with ether. Serum—Antispasmodics. Anodynes.	Death in 14 hrs.
W. S.	8	Blank Cart. Wound Hand.	4 July	11 July	Wound incised with Counter-opening, but not cleaned out.	Trismus—Spasm hand muscles.	Wound excised. Wad removed. Serum—Intra-muscular. Carbolic acid, Anti-spasmodics and Anodynes.	Death in 46 hrs.
F. M.	13	Blank Cart. Wound Hand.	4 July	12 July	Carbolic dressing with Incision of wound, but not cleaned out.	Trismus—Spasm neck and hand.	Wound excised with ether. Wad removed. Serum—Intra-muscular. Formalin (1-7000) infusion. Antispasmodics, Anodynes.	

CASES PRIMARILY TREATED AT LAKESIDE

Name	Age	Injury	Date of Injury	Date of Operation	Treatment	Result
W. M.	11	Blank Cartridge wound, hand.	4th July.	4th July. (3 hours)	Anesthetized. Excision. Drainage. Iodoform gauze packing	No symptoms thus far.
B. T.	22	Lacerated hand (sky rocket).	3rd July.	4th July. (12 hours)	Ether. Excision. Drainage, etc.	No symptoms thus far.
W. L.	24	Blank Cartridge wound, hand.	2nd July.	4th July. (2½ days)	Ether. Wad extracted. Excision, etc. *Prophylactic serum, 2 days.	No symptoms thus far.
W. W.	12	Blank Cartridge wound, hand.	4th July.	4th July. (1 hour)	Ether. Excision. Iodoform packing.	No symptoms thus far.
F. S.	28	Blank Cartridge wound, hand.	3rd July.	5th July. (42 hours)	Ether. Excision. Iodoform packing.	No symptoms thus far.
S. C.	8	Blank Cartridge wound, hand.	4th July.	6th July. (48 hours)	Ether. Excision. Iodoform packing.	No symptoms thus far.
A. O.	9	Blank Cartridge wound, hand.	4th July.	6th July. (48 hours)	Ether. Wad extracted. Excision, etc.	No symptoms thus far.
S. D.	37	Blank Cartridge wound, hand.	4th July.	5th July. (30 hours)	Ether. Excision. Drainage, etc. *Prophylactic serum, 5 days.	No symptoms thus far.
R. S.	11	Blank Cartridge wound, hand.	4th July.	13th July. (9 days)	Wound excised.	No symptoms thus far.
C. E.	10	Blank Cartridge wound, abdomen.	2nd July.	6th July. (4 days)	Laparotomy. Colostomy. Lavage.	Death 6th July, from Gen'l Peritonitis.
A. B.	11	Blank Cartridge wound, finger.	4th July.	16th July.	Ether. Excision. Drainage, etc.	Outside treatment—Washed with carbolic and packed open— soaking repeatedly with carbolic. Wad was found in hand at Hospital.

BACTERIOLOGIC REPORT

A. I. LUDLOW, M. D.

In accordance with our usual routine an effort was made to determine, as far as possible, the bacteriologic findings of the cases of blank cartridge-wounds. Inasmuch as the tetanus bacillus develops only in the absence of oxygen it was necessary to make anerobic cultures. When the wound was thoroughly opened, such part of the wad as was obtainable, together with the tissue in its immediate vicinity, was placed in a sterile test-tube and as soon as possible was transferred to the culture medium.

The cultures were made according to Wright's method. Two kinds of media were used, a 1% glucose bouillon and *agar agar*. The medium fills the test-tube to a considerable height so that oxygen can less easily penetrate to the deeper portions. The contents of the tube are boiled for a few minutes to expel the excess of oxygen from the medium. The tube is then immersed in cold water to cool its contents rapidly, and then before the medium becomes solid, the tube is placed in a water bath at 38° C. for a few minutes.

When the medium may be assumed to have reached this temperature, it is inoculated with material from which the growth is to be obtained. After the culture medium has been inoculated, the cotton stopper is thrust down almost to the medium and a second absorbent cotton stopper is inserted sufficiently far down into the test-tube so that the upper end is about one centimeter below the mouth of the tube. Next there is run into the absorbent cotton stopper a small quantity of a watery solution of pyrogallie acid and about 1 c.c. of a 50% sodium hydrate solution. The tube is immediately closed air tight by firmly inserting a rubber stopper sealed with wax or paraffin.

Cultures made in this way gave the following results:

1. Cases which did not develop tetanus:

Five cases are included under this heading. The cultures from three cases were sterile. In the fourth case, *streptococcus pyogenes*, *staphylococcus pyogenes albus* and *bacillus mucosus capsulatus* were found. The fifth case showed cultures of *streptococcus pyogenes* and *staphylococcus pyogenes albus*.

2. Cultures from cases which developed tetanus:

In all of these cases symptoms of tetanus were apparent at the time the cultures were taken.

In the first case, the one on whom the intracranial injection was made, the culture was sterile. In this case the wound had

been cleansed and soaked with bichlorid before the patient came to the hospital.

The culture from the second case showed a growth within 24 hours. After a week had elapsed, in order to give time for spore formation, the culture was examined. The medium presented a considerable amount of gas formation and a diffuse growth spreading out from the line of inoculation, particularly in the deeper portions.

Coverslips made from this culture showed many bacilli which were nonmotile. Some of these bacilli were straight or slightly curved with somewhat rounded ends and no spores. These bacilli were enclosed in a transparent capsule and stained by Gram's method, the *bacillus arogenes capsulatus*.

Many other bacilli were found appearing as slender, straight bacilli, with rounded ends. Some showed at the extremity of the bacillus a spore, spherical in form and considerably greater in diameter than the rods themselves, giving the bacilli the shape of a pin. This bacillus stained by Gram's method, thereby presenting both morphologically and in its staining properties the appearance of the bacillus of tetanus.

In addition to the above, aerobic subcultures showed *streptococci* and the *bacillus mucosus capsulatus*.

From the third case the organisms were identical with those found in the second case with one important exception. In this case the bacillus which appeared almost identical with the tetanus bacillus, was more javelin shaped, decolorized by Gram's method and developed in the presence of oxygen. This was evidently the pseudotetanus organism.

More will be said later with reference to these cultures in animal inoculation.

The fourth and fifth cases showed the *bacillus mucosus capsulatus* and *bacillus arogenes capsulatus* but no organism like the tetanus organism could be found.

The startling feature in all these last four cultures was the large amount of gas formation, in one case it being so great as to force out the rubber cork.

ANIMAL INOCULATIONS

Bouillon cultures from the second and third cases were heated to 80° C. for 20 minutes in an effort to destroy all but the suspected tetanus bacillus. One cubic centimeter of each solution was then injected subcutaneously into the hind leg of two guinea-pigs. A second anerobic culture made from the culture thus heated still showed both the tetanus bacillus and *bacillus arogenes capsulatus*, so both organisms were introduced at the inoculation.

Twenty-eight hours after inoculation the guinea-pig which had been inoculated from the culture containing the tetanus bacillus showed rigidity of the leg inoculated. Within six hours this leg showed tetanic contractions. The next morning the guinea-pig was found dead.

At the seat of inoculation there was no suppuration. The internal organs appeared normal. Cultures were made from the tissues excised about the point of inoculation and showed *bacillus arogenes capsulatus* in pure culture. The tetanus bacillus could not be recovered. The *bacillus arogenes capsulatus* might therefore have had some part in the death of the guinea-pig.

The culture of *bacillus arogenes capsulatus* should have been injected into a guinea-pig but unfortunately this was not done. The guinea-pig inoculated from the culture containing the pseudotetanus and *bacillus arogenes capsulatus* was unaffected.

SUMMARY

In the cases which did not develop tetanus the bacillus of tetanus was not found. In only one case of the five which developed tetanus was the tetanus bacillus found, and this organism was not recovered from the guinea-pig inoculated.

The finding of the *bacillus arogenes capsulatus* in four cases which developed tetanus is interesting. Has this organism anything to do with the phenomena assigned to tetanus? The action of light, especially sunlight, is very destructive to the tetanus bacillus. This suggests an experiment in regard to the action of the X-ray upon the growth of the tetanus. If it should prove destructive to the organism it might be of some value to submit the opened wounds to the X-ray treatment. The data in hand is too fragmentary to be of any value except as a suggestion for more work along this line of research.

Suggestion and Therapeutics

BY R. H. GRUBE, A. M., M. D., GRAPE GROVE

The fact that mind can act upon mind is the basis of all social intercourse. Such interaction is either emotional or intellectual. The emotional susceptibility man shares with all his animal congeners, as Romanes and others have shown by their investigation.

Human history has many accounts of strange phenomena of this action, chiefly in connection with men's religious life, such as the Flagellants, the Children's crusade, the dancing mania, and

other epidemics of the Middle Ages described by Hecker; the jumpers, the shouters, and similar instances of emotional excitement accompanying religious revivalism in later times; also, such manifestation of mob spirit as the great revolution in France, and riots and lynchings in this country.

On the intellectual side we have the phenomena of dominant ideas such as the rise and spread of Mohammedanism, the great military movements incited by Peter the Hermit, and Joan of Arc, witch persecution in England and our own country, spiritualism, Christian Science, and faith cures in their various manifestations.

The end of the eighteenth and beginning of the nineteenth centuries witnessed such an outburst of intellectual activity as the world had never seen. Nature was exalted and the laws of her known forces formulated, and new ones discovered. It is not strange that man's innate love of the occult should manifest itself at such a time and, not content with the toilsome and slow unraveling of nature's secrets, that he should hypothecate strange forces and build theories upon them. Mesmer, led by the study of magnetic force inherent in iron, concluded that there was an analogous force inherent in the animal organism. To this he gave the name animal magnetism, and declared that it could pass from one living body to another by contact as magnetism passes from one piece of iron to another. A little later Baron Reichenbach took up the subject and proclaimed the discovery of an entirely new force in nature which he named Od or the Odylic force. Braid, experimenting with Reichenbach's method, found that he could produce the same results as did the latter with his magnets, that Mesmer did with his contact, or the electrobiologists with their metallic discs, by using any bright object for the gaze, or his empty hands for the passes. Moreover he perceived in the induced state a close similarity to the natural sleep and gave it the name of hypnotism. Liebault was the next of note to take up the subject and to apply it more specifically to the purpose of healing, and his pupil, Bernheim, founded the school of Nancy which has been for many years the center of the theory and practice of the cult.

The wild riot of speculation attendant upon the development of the inductive sciences was soon checked by the announcement of the discovery of the law of conservation of energy, and any announcement of a newly discovered force was promptly challenged. Psychologists found that they could account for the phenomena of hypnotism by well-known laws of the mind itself. Such a law had long been known under the name of suggestion. What is essentially hypnotism had been in use by the

Hindoo Yogi for more than 2,000 years, not only for the cure of disease but for the induction of anesthesia for surgery and for the working of many other wonders which I cannot stop to describe.

For our present purpose I will define suggestion as the involuntary response of one mind to direction by another. In order to understand what hypnotism or induced sleep is, it will be necessary to inquire, as far as we may, what natural sleep is. What its ultimate nature is we do not know, but we do know that it is a time of rest and repair for the brain; that it may vary from simple reverie, which we may paradoxically call a waking sleep, to a profound unconsciousness bordering on coma; that, during its continuance, the highest faculty of the mind, the volitional judgment, is in abeyance, and the mind acts in a purely reflex or automatic manner.

According to Hughlings Jackson's theory of the paralysis of dissolution, a paralyzing agent acting on the brain and nervous system, abolishes their functions in the inverse order of their development. This order of development is, first, the primary reflexes, those governing the vital processes such as digestion, nutrition, circulation and excretion; next, the secondary or acquired reflexes which, grouped in a body, we call habit; and last the higher mental faculties, the emotion, the intellect and the will. It is a well-known fact that each of these faculties exerts an inhibitory or controlling action upon those below it, just as physiology tells us that in the frog, beginning with the basal ganglia, the removal of each segment of the cord increases the excitability of the part remaining. The action of Jackson's law is familiar to us as seen in alcoholic intoxication in which condition, beginning with the highest, the mental faculties are extinguished in the inverse order named.

That in ordinary sleep volitional judgment is paralyzed we know from our remembered dreams in which the most sudden and grotesque transformations, or our passing from one scene to another without any effort or control on our part, causes in us no surprise.

Will was defined by Schopenhauer as synonymous with desire, and for our present purpose I will accept this definition with a qualification and call it dominant desire. With a properly trained judgment the dominant desire of an individual will be in accordance with the good, the beautiful and the true; but with the judgment undeveloped or paralyzed, dominant emotions or ideas determine the conduct. Such dominant idea or emotion may come from within the mind itself, in which case it is called an

obsession, or it may come from another mind when it constitutes a suggestion.

All that any of the systems of hypnotism, mesmerism or trance have proved to be is that the condition is an induced sleep during which the subject's judgment is paralyzed, and his dominant desire is to do what is suggested to him, within certain limits. That a person with a weak and undeveloped will-power is easily influenced by any suggestion that is in harmony with the dominant note of his character is a well-known fact.

It is not surprising that during the prevalence of dominant ideas or emotions in the form of epidemics, or even in individual cases, profound mental and physical changes should occur, and so we find in the wake of every such manifestation physical and mental wrecks and also marvelous cures.

I need not stop here to demonstrate the great influence which the mental states have over the primary reflexes in their control of the processes of nutrition and waste. That warts can be charmed away we know; that bad news or a depressing incident will check the process of digestion; that Obi put upon a plantation negro by a supposed witch or wizzard caused him to pine and waste away; that even death may be caused by imaginary means, as was proved by French physicians, who in pretending to bleed a man to death actually killed him; or that in all the great epidemics of history more people died from fright than from disease, as indeed is true today of the dread disease rabies; these and a multitude of like familiar facts testify to the potency of this law.

If now the dominant idea be such that the mind expects certain results, those results are very apt to follow if their conditions lie within the sphere of the mind's influence. This constitutes another important law of the mind and is called expectant attention or expectancy. As physicians we are more dependent upon this law for success in therapeutics than upon any other, for if the patient does not expect to be helped the physician can do him little good.

All primitive peoples believe in demonology and in the efficacy of charms and incantations to drive away the evil spirits which they believe to be the cause of disease. Faith cures are the characteristic of no age nor race, and, from the Indian medicine man's enchantments to Dowie and his methods, they are all equally efficient and equally limited. Faith in prayer, or relics, or charms, or healers cannot restore an amputated limb, sloughed lung-tissue or ganglion cells destroyed by a myelitis, nor can it stop the ravages of pathogenic organisms; but it can restore the lost belief in her

own muscular power of the subject of hysterical paralysis. The same is true of hypnotism or any other form of suggestion.

Our Christian Science friends are partly right when they say that our suffering is the result of fear. A very shrewd observer, a Sister Superior in charge of a large hospital, said to me not long since: "Unwillingness to suffer pain is the curse of our time. The dread of pain drives us to the use of narcotics and anesthetics until the abuse of them is over our people like a blight."

Pain is a relative condition, and it is a far cry from the abject terror of an undisciplined child at the sight or even mention of the surgeon's knife, to the stoicism of the red Indian at the burning stake defying his enemies to extort from him a cry or groan with their cruelest tortures. It is not because the Indian does not suffer pain but because he has all his life schooled himself to ignore it.

The perception of pain is largely a matter of attention. The soldier in the excitement of battle does not usually know that he has been hit until he feels the blood in his boots or grows faint from its loss. The great preacher, Robert Hall, could forget the jagged stone in his kidney in the earnestness of the delivery of his sermon only to roll on the floor in agony when his address was finished. Indeed pain may be entirely subjective, as in a case related by Bennett of a butcher who slipped while hanging up a heavy piece of meat and was caught by the arm on one of the sharp hooks. He was helped down and taken to a surgeon. The pain was so great that it was with difficulty that the sleeve was removed, when it was found that the hook had not entered the flesh at all.

There is another feature of the mental organization that I wish to call to your attention and that is as to whether the vast accumulation of secondary or acquired reflexes, including habits of thought, can, like the primary ones, proceed independently of the consciousness, as indeed in their normal condition they should do, and leave the conscious part of the mind free to devote its entire attention to some particular subject. Thus the subconscious part of the mind can and does perform complicated functions while the conscious part is in deep abstraction, or even inactive as in true sleep or the hypnotic state.

On the other hand, if the attention is turned inward, not only does the subconscious rise into consciousness to torment us with its din, but even the primary reflexes may do so, and we feel the process of digestion, the beating of the heart, and it is recorded

of one patient that he was driven insane by the constant ringing in his ear caused by labyrinthine trouble.

It is also true that the concentration of the attention upon some organ or function within has the effect of changing its nutrition in some manner and of so modifying its action. Thus a mother saw a heavy sash fall upon and crush the fingers of her own child. Scarcely had the injury been dressed when she noticed that her own fingers corresponding to the child's injured ones had begun to swell and inflame.

The question now arises as to whether we as physicians can make use of any of the specific forms of suggestion that have been lauded from time to time as being capable of performing wondrous cures. That is, would we be justified in using contact to cure disease as did Mesmer, or magnets after Reichenbach's methods, or hypnotism according to Braid and the modern hypnotists? They all boast their cures, but so do Perkin's tractors, the Lady of Lourdes, the Dowieites, the Christian Scientists, the Osteopaths, and all the other 'paths.

Because a method has fallen into the hands of charlatans is no reason why we should condemn and reject it, but when we must join hands with quacks in deceiving the people, even to do them good, we must call a halt. The ten commandments are still in force, and we are never justified in lying to our patients.

The consensus of opinion among those of our profession best capable of judging in the matter is against the use of hypnotism in the treatment of disease, first, because of the limited number of persons who are capable of being hypnotized; second, that such persons are susceptible is because they possess a weak will-power, and the process has been shown to further weaken this; third, the benefits derived are mostly of short duration and the process must be often repeated; fourth, almost all the force of suggestion under hypnotism may be obtained by the legitimate use of suggestion in other forms.

In substantiation of this view, permit me to quote some portions of a very able editorial in the *London Lancet*: "The stream of hypnotic literature would appear to be gradually subsiding, not perhaps before it was time, and the interest in the subject, both public and professional, is evidently on the decline. We have always maintained that in essence it was identical with the Mesmerism, Braidism and electrobiology of former times, and in due course it would be found barren if not noxious in the field of medicine. Hypnotism is undoubtedly worthy of study, but we suspect that more and more it will be turned over to the psycholo-

gist, perhaps sometimes to the alienist, and that its interest for the practical physician will steadily wane. Until the evidence of its utility is a hundred fold more conclusive than it at present appears, we shall not regret having striven to preserve medical science from identification with doctrines and methods which are tainted with charlatanry."

Let us turn now to some of the legitimate uses of suggestion in therapeutics. The first of these is in self-confidence begotten of thorough knowledge on the part of the physician. There is no royal road to learning. Proficiency in therapeutics is paid for by long years of hard study and close observation. The physician's ability to make an accurate diagnosis is the first requisite for securing both his own and the patient's confidence in his ability, correct prognosis the second, and when there is added to these a thorough knowledge of the physiologic action of his therapeutic agents, then the physician can prescribe his remedies with confidence, adding to their physiologic effects the expectancy of the patient's mind. No one is justified in prescribing a placebo; that is a confession of ignorance. The physician should know what to expect from his remedies, and this expectation he should place before the patient with all the positiveness he can command, not hedged even by the doubts that may be in his own mind.

But it is not necessary nor desirable to deliver a lecture on pathology with each prescription as is the custom of some. The patient, especially if he is neurotic, is already too much engrossed with his symptoms, and it should be an object to turn his attention away from himself. Rather shame him for sitting like the navel gazers studying his internal sensations. Is he a hypochondriac? As most of these patients are, tell him of such instances as Beethoven whose very soul was music, yet long after he could not hear a note of the loudest instrument he went on composing music for others to enjoy; of Henry Fawcett who, after he became blind, went through Cambridge University and became a professor, then into public life, and was England's most capable Postmaster General; of Laura Bridgeman, both blind and deaf, yet who found life a joy and blessing; of William of Orange whom Macaulay calls an asthmatic skeleton, or Luxembourg, his opponent at the battle of Landen, who was a hunchback dwarf. Preach to him the gospel of work with Thomas Carlyle who exclaims: "Produce! Produce! Were it but the infinitesimal fraction of a product, produce it in God's name. 'Tis the utmost thou hast in thee, out with it then. Up! 'Up! Whatsoever thine hand findeth to do, do it with thy whole might!"

The doctor must himself set the example. He must be courageous, enthusiastic, hopeful and masterful. An ill doctor cures no patients. The pessimistic doctor cannot in good faith bid his patient go forth into God's sunshine and green earth and be healed.

But after all "The dog returns to his vomit and the sow to her wallowing in the mire," so these patients *enjoy* poor health. The nearest some of them ever come to being happy is when, like the Ancient Mariner, with the glittering eye, they find a sympathetic listener to their tale of woe; indeed, sympathy and condolence come to be their meat and drink. Like the derelicts of the ocean they would not be worth the dynamite needed to blow them out of the water were it not for the menace they are to the other craft.

And yet what may be accomplished in some of these cases when suggestion is made through the right channel is shown by a case that came under my observation. A fellow-boarder, a woman, was a typical valetudinarian. She had corneal opacities, and iridectomies had been made to secure colobomata opposite the best parts of the cornea, but even with lenses of complicated formulas she could not see to read or to do fancy work; her only occupation was introspection. Each meal-time brought some new complaint or a variation of the old ones. She became a convert to Christian Science and as at the wave of Ariel's wand her character changed. She ceased to speak of her infirmities, laid aside her spectacles, and whether her opacities cleared up or not I cannot say, but such a result has been known to follow. She left the boarding-house and became a model housekeeper. The right channel in this case, as in many others like it, was the religious susceptibility, a broad one that has as yet been but little exploited. But that is work for the theologians to do. Perhaps some day they will begin to preach the duty of happiness in this world as in the next one.

There is another duty that we as physicians owe to our fellow-men. We must be, as our predecessors have been, conservators of the welfare of our race. Next to the mother, no one stands so close to the cradle as the physician, and it is there that preparation for right living must begin. The question of the early physical training of the child was ably discussed by our essayist at the last meeting, and it is one that cannot be too strongly emphasized, but along with it must go the proper mental and moral training. We should teach the mother that the child must first of all be trained in physical courage, that he may be prepared to meet the inevitable rebuffs of life. In this the Indian mother could be cited as an

example. Says a traveler: "I saw a pappoose bound to his swaddling board carelessly placed where the sun shone squarely in his face, and the flies were swarming over him. Though evidently in great discomfort and the tears were welling up in his big, dark eyes, he did not utter a cry." We should show that suggestion, and example is one of the strongest forms of suggestion, is the most powerful means in the hands of both parent and teacher for managing a child. The trifling hurt the wise mother cures with a kiss and turns the little one's attention in some other direction. The harmful emotions of anger and revenge and envy she strives to supplant by suggesting those of gentleness, of love, and of generosity. She tries to fill his imagination with pictures that are beautiful and pure and to turn his attention away from those that are ugly and polluting. She teaches him both by precept and example to love the true and shun the false, and above all she tries to put for his dominant desire the imperative ought of a right conscience.

When all mothers shall do this, when all teachers shall strive to do it, there will be little need left for hypnotism or its kindred isms, and physicians can turn their whole attention to the real ills to which the flesh is heir.

The Care and Treatment of Crippled and Deformed Children

BY WALTER G. STERN, CLEVELAND
Orthopedic Surgeon to Mt. Sinai Hospital

One of the most fascinating thoughts in modern surgery is that of the possibility of curing a serious disease by a harmless operation which lasts a comparatively short time, as it were, "by one fell swoop." In this category the dictum of "an inch and a half incision with a week and a half in bed," finds its place. Though this saying may hold true for certain picked cases, mild appendicitis for instance, one may be compelled to make a large incision, create a great deal of disturbance in the relationship of the parts, as when masses of adhesions must be separated, then add to this tamponage and drainage, and the period of convalescence jumps from a week and a half to thrice as many months, and the life of the patient and the success of the operation, together with the thoroughness of the cure, depend as much upon the after-care as upon the operation itself. This is true in the province of orthopedic surgery. Here, then, in this class of surgery the conditions,

the tendencies of growth toward deformity, and new growths and deposits often existing from the very beginning of life are met with and demand permanent correction. A surgical operation lasting from 15 to 45 minutes is generally powerless to effect the lasting cure alone and demands for its ultimate success an after-treatment and care, quite out of proportion to the difficulties of the operation. The cutting of a small tendon for muscular wry neck is a comparatively easy task and can be readily performed under the use of cocaine; but the absolute cure of the wry neck and all its train of disturbances and the prevention of its recurrence demand keen thought and patient toil and care for a long period. Mikulicz estimates that the average duration of the treatment of his cases of tuberculosis of bone and joints is over six months—three spent in the hospital and three spent at a sanitarium.

To treat a simple acquired deformity, Lane lays down the following rules:

- (a) Improve general vigor and nutrition.
- (b) Prevent the assuming of attitudes tending to increase the deformity.
- (c) Adopt active exercise tending to correct deformity.
- (d) Use mechanical or operative measures for the speedy relief of the deforming forces.
- (e) Avoid use of instruments, braces, etc., which can at all interfere with the proper use or development of the parts.

It is not the purpose of this essay to advocate or describe special operations or procedures but rather to hint, if possible, in general terms at the methods which are universally applicable and which underlie all conservative procedures in orthopedic surgery. My purpose is to encourage you in your insistence that all deformities, congenital or acquired, shall be under constant medical care and observation; to free you from the necessity of looking for aid from the surgical instrument vender and to encourage you and, through you the parents, in the long wait so often necessary before the final results are seen. It is in this connection that hospital care, especially that obtained by institutions for the care of crippled children founded by the State are of incalculable benefit.

The operative procedures of orthopedic surgery are today on a level with those of general surgery. A rigid aseptic technic has done away with the necessity for the strictly subcutaneous incision and has made it possible to open up major joints without the fear of sepsis. Still the field of "bloodless" operations is not at all narrowed, if only for the reason that parents consent more

readily to such procedures. Brisement forcé or modeling redressment instead of resection, osteoclasts in place of osteotomy, forcible manipulation instead of open incisions as in the reduction of congenital hip dislocation, are generally the operations of choice. Tendon transplantation has achieved such wonderful results of late years that in a recent paper (*New York Medical Journal*, September 5, 1903) I ventured the statement that at the present time there is no case of infantile paralysis, however old or neglected, which cannot be improved by some of our more recent surgical measures. The forcible reduction of recent tubercular deformities, such as Cabot's operation for Pott's disease, has received a decided setback from the return of the deformity and from the death from general tuberculosis in a number of cases. The open operation for club-foot, such as Phelps's operation, is used only as a last resort, for the bloodless manual correction combined with tenotomies can generally relieve even the severer cases. However, as stated before, operative procedures in orthopedic surgery, no matter how keenly planned and skilfully carried out, are generally abject failures as far as permanent results are concerned, unless followed by after-treatment and care as keenly, persistently and dutifully performed as is the operation itself.

Mechanical measures are probably resorted to more than any others and demand for their complete success a knowledge of mechanics. An example of the difficulties in the use of mechanical apparatus may be of interest. In contractures of the knee-joint, springs or rubber tension work best when the deformity is greatest, but they are wholly powerless in the last 10° of flexion or extension. Walking is not, however, perfect until extension is powerful at 4° to 5°. Consequently the ordinary braces and springs cannot be used, and only the scissors-brace, with the joints all made in the form of a large X with rubber or springs to get the bars together, is wholly successful. As most of our medical schools make no mention of this branch of mechanical therapeutics in their advertised courses, it is not to be wondered at that most physicians make use of the ready-made stock braces of the nearest instrument house, or "send away to Chicago" where a 25% rebate awaits the fortunate physician who has a cripple patient. There still clings to the mechanical treatment the feeling that to manipulate apparatus, or to perform the necessary treatment, is in some obscure way outside of strict medical lines; and there are today in all sections of our country prominent members of our profession who still refuse to treat patients with deformities, but send them to some commercial instrument-maker.

The use of resistances and resistance exercises also comes under the head of mechanical therapy. The hand of the mother or nurse makes an admirable resistance for a deformed child to exercise its limbs against, and attendants are for the most part easily taught. If this is not possible, or if more elaborate apparatus is necessary, the extremity can be fixed to a board and the required resistance obtained through straps, pulleys and weights. Here the child can be encouraged to perform prescribed exercises by attaching the clapper of a bell, a rattle or even an electric button to the strap, and the task converted into pleasant play.

Massage, baths, electricity, passive motion and gymnastic exercises are of the utmost benefit to prevent deformity; and at the same time one of the mainstays of all postoperative treatments. What can be accomplished by these measures alone can be readily seen from the report of a case by Leuf, in which the champion high jumper of the University of Pennsylvania (for that year) acquired his powers. In infancy he had a slight paralysis of the limbs and was treated for many years by systematic massage and exercise. Circulation in the paretic parts, inflammatory deposits about the joints, fibrous contractures and adhesions have all been noticed to improve when these measures alone have been persisted in. It was interesting to the writer to note in this connection that Lee had pamphlets on these topics translated into the vernacular tongues of India, where infantile paralysis seems to be unusually common.

Rest, fixation and unburdening are the *sine qua non* in the treatment of all acute diseases of the joints. Physiologic rest is the prime requisite in combatting pain and in the spontaneous cure of joint affections, but can hardly ever be obtained without mechanical aid, except in the spine where recumbency alone is able to fix the diseased part. In all cases rest can be obtained through fixation by means of simple extension, splints, sandbags, weights, and braces, or through the use of plastic materials which harden quickly, such as plaster of paris, celluloid, glass, glue, starch, clay, felt, wool or leather. My own preference has always been for the use of plaster of paris as the universal agent for fixation of bones or joints. When pure and freshly rolled upon crinolin bandages, it is easily applied, and can be made to fit snugly over any surface, no matter how irregular; it can be manipulated while setting, is cheap and durable, and fixes continuously in the right way all the time until the physician himself removes it. Braces, on the contrary, are expensive, must be made and applied by a second party and do not admit of accurate and continuous

fixation because a third party can take them off at any time, and then may not get them on just in the right way. The case of F. B., age 6, suffering from Pott's disease is to the point. At the age of $3\frac{1}{2}$ years, he suffered from Pott's disease and was treated by being placed on a hard bed. No deformity was visible nor did he have any abscesses or ulcers. After 14 months of recumbency he was placed in a plaster cast and allowed to walk about. The cast was renewed at intervals until six months ago when he was given a spinal brace. At the time the last cast was taken off there was no deformity nor abscesses. The mother says that she never could quite get the brace on right (nor do I blame her; there were 13 straps and buckles to fasten) and that in the last six months a large hump was slowly formed embracing the lower six dorsal vertebrae, and a psoas abscess can now be palpated on the right side; all are the result of imperfect fixation from the brace. Does plaster cause more atrophy than braces? Dr Ely, of New York, whom I remember from Lorenz's clinic in Vienna to have been exceedingly antagonistic to the use of plaster, recently made a test in a case of double club-foot encasing one side in plaster after manual correction and using a Taylor club-foot brace on the other foot. At the end of a year the feet were both in good condition but the *one* with the *brace* was *no less atrophied* than the one encased in plaster.

Unburdening is a principle little discussed in America. It is only necessary in advanced cases, such as cervical Pott's disease or hip-joint disease in which simple fixation is not enough.

Pressure and counter-extension are used for the cure of deformity, as in the familiar treatment of the kyphos of Pott's disease. The treatment consisted of a roll placed under the deformity. Braces or a plaster cast are to be preferred to any form of counter-extension of pressure recumbency which dooms a child to lie in bed. Portable beds, frames or carts which can be wheeled out into the open air are, however, often useful when recumbency is absolutely necessary; in very young children a plaster shell moulded to the back answers the same purpose.

Education and gymnastics are of unmeasured value. To have conferred upon a previously functionless member new powers is not enough. The child must be taught to use them and keep up their strength. A flexor tendon transplanted upon the extensor side can be taught to act perfectly as an extensor, but if not kept in constant use will rapidly degenerate. In cases in which operative interference is not used education alone will often confer new powers. Dr Seguin, of Paris, attempted to train the hand of an

idiotic child. When he began the hand was small and wasted, the nails short and brittle and the muscles contracted; the fingers had no power or skill, and only automatic movements were possible. To make the hand follow a command was out of the question. The training began with shoulder exercises and when these were mastered, were followed by purposive movements at the elbow, wrist and fingers. In 14 months' time the boy could drive nails, place pins in holes and perform all manner of difficult tests. In a case of inoperable *spina bifida*, which I saw last spring, the child had no control of her bowels, she could not make purposive movements with her feet and could only stand with the aid of braces and crutches. I placed her under the care of a dancing teacher who carefully taught her how to toe a mark, kick a ball and take dancing steps with the aid of her crutches. The teacher writes me that after six months the child can control the bowels long enough to get to her chair, can play hop-scotch accurately and dance a two-step with the aid of her crutches.

Shall we send our crippled children to hospitals and institutions? In Ohio the movement is just beginning, and from private funds, kindergarten schools and homes for crippled children are being founded. We still lack, however, the great essential, and that is the State institution with abundant means, in which such children can be cared for, brought up to useful manhood or womanhood, and at the same time be properly treated. There can be no question as to the great benefit to be derived from such homes which are everywhere wonderfully successful. It is to be remembered, however, that orthopedic treatment is very expensive both to establish and to maintain; splints, bandages, braces, apparatus, and the like, cost a great deal of money, and the children must be under constant treatment for a long time. Some of our local (Cleveland) institutions have fallen short of the very best results on this account alone, so that a well-equipped State hospital is *imperatively demanded*. A crippled child does not necessarily mean a helpless man, and society derives as much good or more from a home for crippled children than from an insane asylum, and the little ones ought to be wards of the State in their youth, rather than allowed to go uncared for and then forced to become inmates of our county poor-houses at the very age that the State homes for crippled children turn their charges out into the world as useful men and women. To have the long-continued care and after-treatment given by such a State home would often crown our operative procedures with success instead of failure. One example will suffice I am sure. David C., age 5, suffered

from infantile paralysis at the age of 18 months. A club-foot developed and was operated on in Toronto, and David learned to walk; but the case was neglected and the condition soon returned. One year ago I corrected the club-foot and transplanted several of the tendons and held the foot in the over-corrected position for a number of months by means of plaster casts. I then persuaded the mother to give the limb daily baths, massage, passive motion and exercises. The result was good, too good in fact, for the mother, a careless, ignorant woman, burdened with five other children, stopped the after-treatment as soon as she thought "Davie was oncet cured," and the limb soon wasted and relapsed into its former state. Both operations failed solely for the want of the proper after-care and attention. But where could David get these? Our general hospitals turn out their patients as soon after the operation as possible, children's homes don't want cripples, visiting nurses do not give massage and a busy physician cannot devote an hour each day to a single unremunerative case who would present himself unkempt and dirty, provided the parents didn't find it too much trouble to bring him. Nor should the treatment of crippled children depend upon the ordinary exigencies of hospital or dispensary practice—as seen in the clinics of New York. Hip-disease, for instance, requires from one to three years of constant care and treatment, and yet how often is a child operated on or fitted with a hip splint and dismissed to the home where it will lay neglected till a visiting nurse discovers it and sends the child to some other institution.

The prevention of deformity ought to be the aim of every well-minded physician, and can generally be accomplished, provided the physician and the patient have enough endurance and patience. Many acquired diseases, such as infantile paralysis, are not essentially deforming, and an early and correct diagnosis, with the proper management and care in carrying out the measures advocated in this essay, are sufficient to force the future growth of the child in the right direction.

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Sanitary Legislation Affecting Schools

BY L. K. BAKER, M. D., CLEVELAND

In the report of the Commissioner of Education for 1893-4 will be found 48 pages of printed matter relating to sanitary legislation for schools. Perusal of these chapters is worth the while of anyone interested in the subject.

Inspection of the table giving the legislation in 33 different States, on 12 different subjects, gives a very good birds-eye view of the situation.

TABLE I—*Subjects of legislation in different States*

Number.	Inspection.	Vaccination.	Protection against fire.				Contagious diseases.	Sanitar-ies.	Ventilation.	Seats and floor space.	Barbed wire.	Nuisances.
			Doors.	Exits.	Escapes.	Stairways.						
1	Ala...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2	Ark...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	Cal...	Cal...	.....	.....	.....	.....	Cal...	.....	Cal...	.....	.....	.....
4	Colo...	.....	Col...	.....	.....	Col...	.....	.....	.....	.....	.....	.....
5	.....	D. C...	D. C...	.....	D. C...	.....	.....	.....	.....	.....	.....	.....
6	.....	Conn...	.....	Conn...	.....	.....	.....	Conn...	Conn...	.....	.....	.....
7	Del...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8	.....	Ga...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
9	.....	.....	Ill...	.....	.....	.....	.....	.....	.....	.....	Kans...	.....
10	.....	.....	Ind...	.....	.....	.....	.....	.....	.....	.....	.....	.....
11	.....	Iowa...	.....	.....	.....	.....	Iowa...	Iowa...	.....	.....	Iowa...	.....
12	Kans...	.....	.....	.....	.....	.....	.....	Kans...	.....	.....	.....	.....
13	Ky...	Ky...	.....	.....	.....	.....	Ky...	.....	.....	Ky...	.....	.....
14	Mass...	Mass...	Mass...	Mass...	Mass...	Mass...	Mass...	Mass...	Mass...	.....	.....	.....
15	.....	Me...	Me...	.....	.....	.....	Me...	.....	.....	.....	.....	.....
16	.....	Md...	.....	.....	.....	.....	Md...	Md...	.....	.....	.....	.....
17	Mich...	.....	Mich...	Mich...	.....	.....	.....	.....	.....	.....	.....	.....
18	Minn...	Minn...	.....	.....	.....	.....	Minn...	.....	.....	.....	.....	.....
19	.....	.....	Mo...	.....	.....	.....	.....	.....	.....	.....	.....	.....
20	.....	.....	Nebr...	Nebr...	.....	.....	.....	.....	.....	.....	.....	.....
21	.....	.....	Nev...	.....	.....	.....	.....	Nev...	.....	.....	.....	.....
22	.....	N. H...	N. H...	N. H...	.....	.....	.....	.....	.....	.....	.....	N. H...
23	.....	.....	.....	.....	N. J...	.....	N. J...	.....	.....	.....	.....	.....
24	N. Y...	N. Y...	.....	.....	.....	.....	N. Y...	N. Y...	N. Y...	.....	.....	.....
25	.....	N. C...	.....	.....	.....	.....	N. C...	.....	.....	.....	.....	.....
26	Ohio...	Ohio...	Ohio...	Ohio...	Ohio...	.....	Ohio...	.....	.....	.....	.....	.....
27	Pa...	.....	.....	.....	Pa...	.....	.....	Pa...	Pa...	.....	.....	.....
28	.....	R. I...	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. I...
29	Tenn...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
30	.....	.....	.....	.....	.....	.....	Utah...	.....	.....	.....	.....	.....
31	Va...	Va...	.....	.....	.....	.....	Va...	.....	.....	.....	.....	.....
32	W. Va...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
33	Wis...	Wis...	Wis...	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total..17			13	6	5	2	12	8	5	1	1	2

ACTUAL AND POSSIBLE LEGISLATION CONCERNING SCHOOL
SANITATION

"Whatever theory of political science it accepts, modern legislation has practically adopted the principle that the State is as largely responsible for the health as for the wealth of its citizens. It is in a measure recognized that a conditioning factor in the life of society is the physical soundness or unsoundness of its members, and that sickness and disease cause industrial as well as mental and moral losses. It is this perception, indeed, which underlies all sanitary legislation. Under its guidance governments have for many

years taken measures of protection against fire and against the spread of contagious diseases—dangers which produce immediate and marked results. Only within comparatively recent times, however, has it been understood that certain conditions which predispose to specific diseases or which tend to diminish vitality, and hence to lessen achievement, are in even greater need of scientific supervision.

"It would seem quite unnecessary to say that society should feel a peculiar interest in and responsibility for those of its members who are still in the period of development, laying the foundation for future health or ill health, and that therefore it should exercise special care over the public schools. It would certainly seem quite unnecessary to state this were it not that 15 of the States and Territories of the United States have no legislation on this matter, and that four of the remaining 33 have only laws relating to protection from fire.

"The legislation of these 33 States and Territories and of the 17 cities investigated may conveniently be summarized (*vide* Table I) that we may see what change or progress is possible along the lines already laid down.

"Beginning with the subject of inspection, and comparing the other States with Massachusetts, we find that 16 of them provide for the inspection of schoolhouse plans or buildings by some higher authority than the local board, either by the board of health, the county superintendent, or school commissioners.

"On the second point, vaccination, the example of Massachusetts is followed by 16 States.

"The next most general subject is protection against fire. Massachusetts provides for ample exits, doors opening outward, fireproof construction, fire escapes in certain cases, and careful inspection. Fifteen other States touch the subject, but much less comprehensively. Of these, 12 require that doors open outward; 5 insist upon ample exits; 4 on fire escapes in certain cases; 1 on fireproof stairways.

"The regulations of Massachusetts in regard to contagious diseases are found in slightly different form in 11 other States.

"Provisions are made by Massachusetts for sufficient water-closets, earth closets, or privies in connection with each school, and for their proper care. Seven other States also provide for closets. The statutes of Kansas, Nebraska, and Pennsylvania employ the single term 'water-closets,' which we must suppose is not used in its strict meaning.

"It is to be noted that Massachusetts is the only State which has regulations on all five of these subjects. Ohio stands next, considering four of them; 11 States provide for three of them; 6 for two of them.

"Of those factors which concern health only a degree less potently than contagion, ventilation is the most important. Indeed as a permanent rather than an accidental condition, it should be considered deserving of first attention. Yet Massachusetts and Connecticut are the only States which can be said to have taken

any action in the matter. Pennsylvania provides for the circulation of plans for school buildings with 'healthful ventilation;' New York has its plans accompanied with suggestions for lighting, heating and ventilating; California, through the State board of education, instructs teachers to keep their school-rooms ventilated, but Massachusetts and Connecticut alone present a standard of ventilation and require its enforcement under legal penalties.

"A second condition of grave import, one which is closely connected with the preceding, is that of the area and cubic contents of the school-rooms. When it is considered that overcrowding may render any system of ventilation ineffective, it seems strange that but one State has any legislation on the subject. Kentucky has led the way in this particular, giving, to be sure, a low minimum standard, yet one far above the actual conditions in many places.

"Kentucky is also the only State which regulates at all the lighting of school buildings and which specifies that the seats shall fit the children.

"Turning now to the cities, a reference to the list will show that with the exception of Seattle they are all in States which have some legislation on sanitation. In many instances the subject of the statutes is repeated by city ordinances or by rules of the board of health or school board, but there are also numerous cases of additional legislation on important matters."

In adopting a new school code it would not be a difficult matter to enact legislation upon the measures mentioned in the table, and thus place Ohio at once in the lead in school sanitation. Without being other than conservative we can take a step or two in advance. In the first place, we may be more specific in legislating upon some of the matters in the table; in the second, we may require a minimum playground surface per pupil, and we may require the following of Javal's rule in the placing of school buildings together with a definite minimum window space for school rooms. In the third place, we can give boards of education power to enact such local sanitary regulations as will conserve the health of teachers and children, thus making it possible for city boards to cope with the problems of city schools, so different in many ways from those of towns and villages.

Suggestions regarding:

INSPECTION

(See Mass. Laws.)

In this State the inspection of all public buildings is in the hands of the chief of district police. The very instructive report of the chief for 1901 shows that great progress has been made in the matter of inspection of school properties. The report can be obtained from the State Board of Education, State House, Boston.

VACCINATION AND CONTAGIOUS DISEASES

The Ohio State Laws on this subject are fairly effective.

PROTECTION AGAINST FIRE

The State legislation is ample in this matter, except that it does not provide the kind of supervision necessary to render the laws fully effective.

SANITARIES

The New York State enactment regarding water-closets, coupled with proper inspection, should prove effective.

HEATING, VENTILATION AND LIGHTING

The enactments of Massachusetts, New York and Connecticut are worthy of study in this connection. An enactment based upon the provisions of these States will be useful. But we can well go a little further, stating more specifically that steam heat should be used in buildings of four or more rooms, and that not less than 2,000 cubic feet per pupil of air not warmer than 90° Fahrenheit be delivered to each room each hour during school sessions, that the ratio of window to floor space be not less than one to five, and that, as suggested by the Academy of Medicine of Cleveland, the color of the window shades be light buff or cream.

SEATS AND FLOOR SPACE

Kentucky alone legislates on these subjects. The minimums given are such as to create wonder as to what sort of cabins must have been used for school houses by an earlier generation.

At least 20 square feet of floor space per pupil should be provided, and the air space per pupil should not be less than 240 cubic feet.

BARBED WIRE

The penalty clause in the Iowa enactment suggests the seriousness of this bit of legislation as well as the way in which to render sanitary legislation effective.

NUISANCES

Except that the penalty is rather small, the New Hampshire enactment is fair.

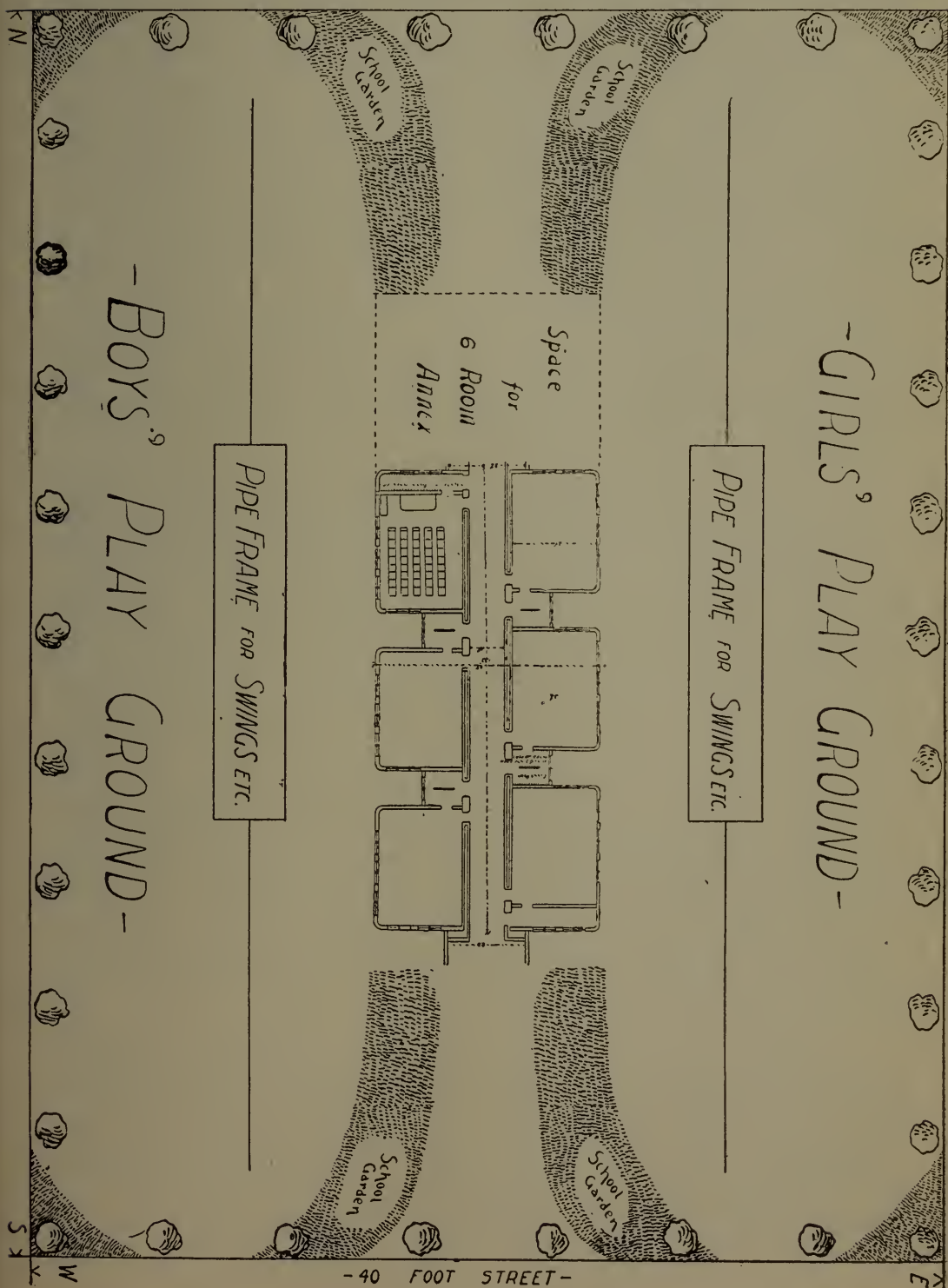
The Rhode Island swine provision appeals to one's sense of the ludicrous.

After a school building has been located in a favorable place enactment should make it possible to prevent introduction of disturbing noises—as from street cars—smoke from stacks to windward, bad odors, and the darkening of the rooms by the erection of adjacent walls within the limits of Javal's rule.

PLAYGROUNDS

Probably the most expensive ground in the State of Ohio is occupied by the city of Cleveland. However, the school board of Cleveland has voluntarily adopted the principle of purchasing additional land whenever an annex building is to be erected, and in selecting school sites preference is given to the larger pieces of property. This indicates that enactment prescribing a minimum playground surface is practicable.

The following cut shows a lot 240 x 300 feet for a 24 room plant in which approximately 25 square feet of free playground surface are provided for each pupil. This is a fair minimum. This cut will also serve as an illustration of Javal's rule regarding lighting now universally accepted. Its application would require that walls of buildings adjacent to school buildings must not be more than one-half as high as their distance from the walls of the school building. This rule should also apply to annex buildings.



Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

Pneumonia: In the *Medical News*, for October 10, Noble P. Barnes states concerning the treatment of pneumonia in children that the usefulness of guaiacol or creosote carbonate has been proved in numerous instances. Potassium guaiacol sulphonate is claimed to have a specific action in this disease, bringing about a crisis in from 24 to 72 hours, and making the use of antipyretics unnecessary. He believes that large doses of quinin for its effect upon the leukocytes and hot mustard foot-baths are indicated in the first stage of all pneumonias. Infants, however, occasionally suffer more from the vigorous medication than they do from the disease. In lobar pneumonia the treatment is simplified, the disease being self-limiting, the main object being to support the strength by suitable food. Breast-feeding infants can be continued at the breast, but bottle-fed babies should have further diluted or predigested food. Water is all the antipyretic needed, although the cold plunge should never be used. Cough and restlessness can be controlled by Dover's powders or salicylacetel. Alcohol in small doses may be given for its sedative effect, and strychnin is the only stimulant to be depended upon. For collapse which should be avoided the hot mustard bath, and vigorous rubbing are of the greatest value.

Euquinin: William Stekel (*Klin. Ther. Wochenschr.*, quoted in *Merck's Archives* for October) asserts that his general results in the treatment of whooping-cough by euquinin were very prompt and often wonderful. There were no untoward effects. Administered in the commencement of the trouble, euquinin reduced the duration of the disease to one or two weeks. He mentions two things of diagnostic value in the beginning of the disease: High specific gravity of the urine (1.020-1.035) and the fact of the cough occurring at night, the child being free from it during the day, and there being no physical signs in the chest. Nurslings received .2 gram (2 grains) twice daily in suppository form; .7 gram (11 grains) was not exceeded as a dose. Children who refused to take the dose per os received it as suppositories, two decigrams (3 grains) more than the number of years they were old, the largest dose per suppository being 1 gram (15 grains). The drug failed in but one case in 23 treated, and the usual duration of six or seven weeks was reduced to three and most of the children were well in a fortnight.

Ergot: A. T. Livingston, in the *Journal of the American Medical Association* for October 31, believes that the nervous disturbances incident to alcoholism and morphinism are due to a disturbance of the vascular system, and the restoration of the equilibrium of the circulation should be the object of treatment. The most certain way of bringing this about is by the hypodermic administration of ergot. The drug not only contracts the muscu-

lar coats of the blood-vessels, but the degree of action is proportionate to the relaxation of these muscular fibers. The first step in the treatment of a drug habit is of course to wholly stop the use of the drug; the next is to give a purgative and begin the use of ergot. The bowels should be kept relaxed by giving one or two drams of the fluid extract of *rhamnus frangula* from one to three times a day. Ordinarily two or three injections of half a dram each of his 12.5% solution of ergot will be enough per diem, but occasionally it will be necessary to give it every two hours. He has never had a patient make a request for the drug or show any desire for it after the first 48 hours. In the very severe forms of the morphin habit it is occasionally better to give with the ergot a fraction of the former daily dose of the drug, reducing the dose of the narcotic one-half each day until it is wholly stopped by the eighth day. In the treatment of these difficult cases, the use of hypnotics should be avoided if possible. He prefers to here resort to the use of galvanism applied to the cervical ganglia, and the whole length of the spine.

Adrenalin: In the *Therapeutic Gazette*, for October, Homer Dupuy reports several cases in which the internal use of adrenalin for the control of hemorrhage gave most satisfactory results. In epistaxis the effects were very pronounced and he calls attention to the (1) large and frequent dosage given, 20 drops of the adrenalin solution (1 to 1000) every hour or two for the first 12 hours; (2) the absence of any toxic or untoward effects; (3) the absolute control of the hemorrhage. In hemoptysis he has used it with best results in 15 to 20 drop doses per orem every three hours or so. In hemorrhage following tracheotomy two hypodermic injections of 15 minims of the 1 to 1000 solution in the space of 10 minutes gave prompt relief. He suggests a gradual reduction of the doses and prolongs the intervals of administration to avoid the bleeding that might recur on the return of the vessels suddenly to their normal caliber.

Mercury: W. F. Bernart, in *American Medicine* for October 31, summarized the advantages of the hypodermic use of mercury in syphilis as (1) the hypodermic use of mercury is indicated in all cases in which other forms of treatment do not control the symptoms. (2) In all cases in which symptoms are controlled and held under abeyance by other forms of treatment only as long as the treatment is continued, cessation of the same being soon followed by recurrence. (3) In all cases requiring secrecy; this method is especially adapted to such cases whether in man or woman. (4) When an intense mercurialization is required for example as necessary in the treatment of the severer forms of nervous lesions. He believes this method will control and cure many cases usually known as "irrefractable forms of syphilis." It will place the treatment of syphilis upon a more scientific basis and may be considered absolutely essential in the syphilitic lesions of the nervous system.

Mercuriol: W. R. Inge Dalton, in the *Medical Council* for June, calls attention to the treatment of syphilis by mercuriol. He used the protiodid of mercury for years, but considers mercuriol the only specific for syphilis and has prescribed it with complete satisfaction. He begins the dosage with a half-grain tablet of mercuriol three times a day. In those cases in which secondary complications ensued and persisted, he gave a one-grain tablet of mercuriol five or six times a day. About once a week it is a good plan to give a saline cathartic. In the majority of his cases one grain three or four times a day was all that was required, while a few required six grains daily to effect beneficial results. He recommends it to the profession most highly.

Tuberculosis: In *Medicine*, for November, Norman Bridge takes the position that a tuberculous lung should not be "exercised." It has been fashionable for a very long time both for the laity and for the profession to advise lung exercises in cases of threatened or actual pulmonary tuberculosis. As a result, numerous schemes of lung exercises and expansion have been proposed and practiced. Physicians have kept measurements of the chests of the sick and have thought that if the circumference can increase from month to month the patients must be improving. The suggestion that all this should be changed and that we should stop purposely exercising the sick lung that we might even sometimes put such a lung to rest completely, strikes the average mind as distinctly heterodox; to many it is the rankest heresy. The only real argument in favor of lung gymnastics and stretching in tuberculosis is that some patients recover while enduring them. But that is not enough; it must be shown that to some degree at least they recover because of those agencies. This he believes is impossible of demonstration. On the other hand it is true that such patients recover better and faster with as much quiescence of the sick lung as possible. The contention is not that the sick people can or ought to do with less than the usual amount of oxygen. On the contrary, they ought to have more. They must be kept out of doors as much as possible, and breathe the best air at all times. Nor is it possible, save in the few early cases of unilateral disease whether the inflation treatment can be used, to completely immobilize a tuberculous lung. But various devices, such as adhesive straps, splints, jackets and the like, may be used to very considerably abbreviate the motions of a lung; and these ought to be used in eligible cases whenever it is possible. Above all things, pumping and stretching the sick lung by useless and straining cough, by voluntary deep breathing, by devices of all sorts calculated to stretch the air vesicles, ought in all cases of active pulmonary tuberculosis to be abandoned completely. They are irrational and harmful; the evidence heretofore thought to be in their favor has been misunderstood and wrongly interpreted, and we ought to be as prompt to abandon them as we have been assiduous in their use.

The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and
THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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EDITORIAL

Intestinal Localization

It would often be of great practical value if we could determine from inspection of a single coil of small intestine its relative position as regards its distance from the duodenum or cecum; and also which is the upper and which the lower end of the coil. A great deal of time and unnecessary handling of the abdominal viscera could thus be saved. With this end in view, Monks (*Annals of Surgery*, October, 1903) has made a series of observations on the cadaver and has confirmed them, to some extent, by practical tests at operations. He finds in the upper part of the small intestine, as compared with the lower end, that the size and thickness are greater, the *valvulæ conniventes* are more easily felt, the vascularity is greater and the color brighter; the translucency is more marked and certain peculiarities of the mesentery are found, *viz.*, a relative thinness and translucency and the quantity of fat is small, the vessels are large, but of simple arrangement, and the spaces between them (*lunettes*) are large. These peculiarities gradually change as the distance from the duodenum increases, until an entirely different appearance is found. The

mesenteric vessels show a more complex arrangement and small tabs of adipose tissue, similar to the *appendices epiploicæ* of the large intestine, begin to be found along the sides of the mesentery. An additional clue may sometimes be obtained by making vertical traction on the loop to see from what part of the mesenteric attachment it comes, and in this way estimate its relative position. The direction of the canal is found by passing the finger down one side of the mesentery to its base, first making sure that it is not twisted. If the finger enters the left lumbar fossa it must have passed down along the left side of the intestine, and by placing the coil parallel to the line of mesenteric attachment, the right and left sides being known, the direction is evident. As an illustration of the value of these observations in determining the distance from the duodenum the error in 75 out of a large number of experiments was less than three feet. Monks hopes that others will supplement these data and by confirming them render them more valuable.

Palliative or Radical Surgery

Probably no other common disease offers such a hopeless prognosis as carcinoma of the cervix uteri, and the question of its surgical treatment has received the widest discussion.

Wakefield (*American Journal of Obstetrics*, etc., October, 1903) reviews the subject, and in a forcible manner presents a plea for radical and extensive operative treatment. No cure can be expected except by surgical means and then only by wide removal. Even in early cases the ultimate results are most discouraging and recurrence is almost invariable sooner or later. Unfortunately the great majority of cases are unrecognized until they are so far advanced that the parametrium is invaded and the pelvic lymphatics is involved. Excluding those cases which are so far advanced that the patient is too weak to stand a radical operation, what shall be done with the rest? Shall we perform a palliative operation, and calmly await the end, or shall we give the patient the one chance of recovery? The secret of the success of the operation must necessarily depend upon the complete removal of the tissue involved. Wakefield gives the results of his investigations upon the lymphatic distribution of the pelvis, upon which depends the spread of the malignant process, and confirms and amplifies the work already done by other observers. He shows that the lymph nodes, although they are not enlarged, may already be the seat of metastases, and that, conversely, quite large nodules

may fail to show a carcinomatous process even under the most careful investigation. The proof of malignant infection by the occurrence of typical carcinoma cell nests sometimes involves an enormous amount of work and therefore cannot always be obtained. The lymph nodules are affected in 25% of all cases, and obviously these should be removed just as the auxiliary glands should be removed in mammary carcinoma; this procedure is impossible per vaginam, and no doubt one reason for the frequent recurrences is the fact that the simple vaginal hysterectomy is so often performed. This operation is warranted, however, in adenocarcinoma of the fundus which offers a far better prognosis than carcinoma of the cervix, owing, no doubt, to the later involvement of the lymphatics. This subject is an old one, but the terrible mortality is practically undiminished notwithstanding all our boasted surgical progress, and it therefore demands our attention.

A Note on the New Protozoon

Of late years there has been a growing interest in the role of animal parasites in the causation of disease. In many of the most familiar forms of infection the essential cause has not been known, though every detail of technic in bacteriology has been exhausted in the endeavor. Now several of these have been definitely proved to be caused, not by bacteria, but by animal parasites of various types, and the road to further discovery has been opened.

Recent work under the auspices of the United States Government has given us a new disease caused by an organism of the same general class as the protozoon of malaria, the first of the animal parasites noted which had its habitat in the red corpuscles of the circulating blood. The discovery of the malarial parasite led to extensive researches by many observers, and in 1893 the Marine Hospital Service published a valuable work on the disease known as Texas fever, prevalent in the southwest, and extremely fatal to cattle. In this disease, as in malaria, an organism was found in the blood, having its seat in the red blood-corpuscles, where a certain amount of development was noted. Inoculation and other experiments proved definitely that this was a protozoon of the variety hemosporidia, and was the cause of Texas fever, and precautions were taken effectively against the epidemics. Here, as in malaria, it was found that the disease was transferred by means of an intermediary host, in this case the cattle tick. The still more recent work to which we refer by J. F. Anderson, Bul-

letin 14, Public Health and Marine Hospital Service, deals with another disease also transferred by means of the tick, also of the variety hemosporidia, but in this case affecting man rather than cattle. The disease is known in the localities in which it occurs as spotted fever, an unsatisfactory name, as two other diseases not very dissimilar are already known by the same title, *viz.*, typhus fever and epidemic cerebrospinal meningitis. Tick fever, the alternate name, suggested on the basis of the means of transmission, seems a better one.

This fever has been known and dreaded for 20 years in certain parts of Montana, and to a less degree in the neighboring States. It occurs in the spring and early summer, between 40° and 47° latitude, and only at elevations above the sea level of from 3,000 to 4,000 feet. It is of the continued type, with slight morning remissions, and has an onset not unlike typhoid, from which it can, however, be distinguished by the uniform absence of the Widal reaction at all stages. In uncomplicated cases the temperature reaches its maximum on the twelfth day, after which it falls steadily, reaching normal between the fourteenth and eighteenth days. The pulse is high in proportion to the temperature, and usually thready. There is a moderate progressive anemia, the normal count at this altitude being 5,500,000, with a corresponding decrease in the hemoglobin, and a slight leukocytosis. The essential characteristics of the disease, as indicated by the usual name, is the eruption. It begins ordinarily on the third day, the first signs appearing on the extremities and spreading to the thorax and abdomen, which last is rarely extensively involved. The eruption is at first bright red, macular, disappearing on pressure, but later becomes darker and of a true petechial type, often almost purple in color. In favorable cases the spots begin to fade about the fourteenth day, but show a remarkable persistence, reappearing temporarily after a warm bath as long as 10 months after recovery. In convalescence there is extensive desquamation, in severe cases actual gangrene of the fingers and toes and more frequently of the skin of the scrotum and penis. Jaundice of the skin is always a marked feature. The morbid anatomy is not characteristic, the punctate hemorrhages in some of the internal organs and the fatty changes in the liver being the most constant lesions. In some respects the disease is not unlike typhus, but the entire absence of contagiousness, the location of the eruption and the history, are sufficient for differentiation. Other diseases which are somewhat similar to tick fever are epidemic cerebro-

spinal meningitis, dengue, and *peliosis rheumatica*, but all these may readily be distinguished from it.

The etiologic factor is found in the red blood-corpuscles and seems to belong to a class between the parasites of malaria and Texas fever, as it is ameboid and not pigmented, while malaria is ameboid and pigmented, but Texas fever is nonameboid and non-pigmented. The technic used in blood examination is the same as in malaria, though the organisms in tick fever are more difficult to stain. The history and development of the parasite has as yet not been thoroughly worked out, but its occurrence in the blood in all cases and its absence in other diseases is evidence of the close relation. In this connection it is of interest that the organisms persist in the blood for some time after recovery. The tick through which the infection is carried appears and disappears at the same seasons as the disease, and a history of tick bites can always be obtained. The limited area of infection, the small number of cases, the preponderance in men over women, and the slow spread of the infected area, are all evidences in favor of this means of distribution. Furthermore, in this disease as well as in the other two in which hemosporidia have been described, as well as in yellow fever, in which the means of transmission is of the same type, and the organism probably of a similar species, the intervention of an intermediate host is necessary, and the disease is otherwise not contagious. If, as seems not unlikely in view of Councilman's work on variola, some of the hitherto undiscovered etiologic factors in the exanthemata turn out to be protozoa, we shall have two distinct classes of eruptive diseases due to such animal parasites, in one of which there is marked contagiousness, in the other no direct contagion. The field is a wide one, and we may look for great advances in the next few years.

The Enno Sander Prize

The essayist securing first place will receive a gold medal of the value of one hundred dollars; the essayist securing second place will receive a life membership in the association of the value of fifty dollars. Subject of the competition for 1904: "The Relation of the Medical Department to the Health of Armies."

Conditions of the competition.—1. Competition is open to all persons eligible to active or associate membership in the Association of Military Surgeons of the United States. 2. The prize will be awarded upon the recommendation of a board of award selected by the executive committee. The board will determine upon the

essay to which the prize shall be awarded, and will also recommend such of the other papers submitted, as it may see fit, for honorable mention, the author of the first of which shall receive a life membership in the Association. 3. In fixing the precedence of the essays submitted, the board will take into consideration—primarily—originality, comprehensiveness and the practicability and utility of the opinions advanced, and—secondarily—literary character. 4. Essays will consist of not less than ten thousand, nor more than twelve thousand words, exclusive of tables. 5. Each competitor will send three typewritten copies of his essay in a sealed envelope to the secretary of the Association, so as to reach that officer at least one month before the next ensuing annual meeting, in the present case on or before September 10, 1904. 6. The essay shall contain nothing to indicate the identity of the author. Each one however will be authenticated by a *nom de plume*, a copy of which shall, at the same time as the essay, be transmitted to the secretary in a sealed envelope together with the author's name, rank and address. 7. The envelope containing the name of the successful competitor will be publicly opened at the next succeeding annual meeting of the Association, and the prize thereupon awarded. 8. The successful essay becomes the property of the Association of Military Surgeons of the United States, and will appear in its publications.

Board of Award, 1904: Lieutenant Colonel John Shaw Billings, U. S. Army; Brevet Brigadier General George Ryerson Fowler, New York; Surgeon Henry Gustav Beyer, U. S. Navy. John Cropper Wise, President; James Evelyn Pilcher, Secretary, Carlisle, Pennsylvania.

Book Reviews

Diseases of the Ear. A text-book for practitioners and students of medicine. By Edward Bradford Dench, Ph. B., M. D., Professor of Otology in the University and Bellevue Hospital Medical College; Aural Surgeon to the New York Eye and Ear Infirmary; Consulting Otologist to the New York Orthopedic Dispensary and Hospital. Third edition, revised and enlarged. D. Appleton & Company, New York. Fifteen colored plates; one hundred and fifty-eight illustrations. Cloth, \$5.00; half leather, \$5.50.

This comprehensive book deserves the highest commendation. The whole subject of otology is discussed in an interesting, clear and scholarly way. The discussion of the bacteriologic study of aural discharges and its influence on the prognosis is only one of many points which illustrates the completeness and scientific worth of the book. The various diseases of the ear and the mastoid cells

and the intracranial complications of middle-ear suppuration are exhaustively considered and the methods of treatment and operative measures are carefully described. The illustrations are numerous and well chosen.

The Principles of Obstetrics. A practical manual for the student, and general practitioner. By Stanley Perkins Warren, M. D., Obstetric Surgeon to the Maine General Hospital; Consulting Physician to the Maine Eye and Ear Infirmary. Profusely Illustrated. 8vo., 345 pages. New York, William Wood & Company 1903.

This is a most compact and servicable hand-book in which all unnecessary theorizing and repetition is avoided; the subject matter is terse and to the point, and yet nothing of importance is omitted. The chapters dealing with such subjects as the development of the ovum and the *minutiæ* of pathologic processes are brief, the discussion of these points being relegated to more exhaustive treatises. Instead, attention is directed to the more practical points especially such as are applicable to confinements in private houses where the facilities are not always the best. The illustrations are numerous and mostly original, and the general appearance of the book is very creditable.

A Manual of Hygiene and Sanitation. By Seneca Egbert, A. M., M. D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia, etc. Third edition, revised and enlarged. Lea Brothers & Co., Philadelphia and New York.

The book is of convenient size, and contains information on the various subjects connected with hygiene. The information is practical, sufficiently illustrated, and combines compactness and breadth of scope. The chapters on school hygiene, military hygiene, personal hygiene, the latter touching on the physiologic functions of marriage, etc., and those on water purification and sewage disposal are of especial interest and value.

Practical Medicine Series of Year Books. Vol. IX. Physiology, Pathology, Bacteriology, and Anatomy. Edited by W. A. Evans, M. S., M. D., Adolph Gehrmann, M. D., William Healy, A. B., M. D. August, 1903. The Year Book Publishers, Chicago.

This book, one of a series of 10 yearly on various departments of medicine, is intended for the general practitioner, and is a very material aid to such as desire to keep up their information as to the work being done in their lines or in others. The majority of the volume is given up to pathology and bacteriology, the recent literature being critically reviewed. The space reserved for the different articles is proportioned to their importance, and the value of the whole is materially increased by a dictionary of terms at the end, covering the majority of the new words which have come up in regard to immunity.

A. Text-Book of Pathology. By Alfred Stengel, M. D., Professor of Clinical Medicine in the University of Pennsylvania, etc. Fourth edition, thoroughly revised, with 394 illustrations in the text, many of them in colors, and 7 full-page chromo-lithographic plates. Published by W. B. Saunders & Co., Philadelphia, New York, London. 1903.

In this edition the work has been amplified, and a number of illustrations added. In the portion dealing with general pathology, the articles on immunity, typhoid fever, yellow fever, and diseases of the blood are brought up to date, with some discussion of recent work. There is an increase in the number of illustrations which are for the most part good, though the colored ones for the most part suffer from the usual fault of color exaggeration. Among the faults noted in the fourth edition is the absence of information as to relative frequency of certain processes, leaving the impression that rare diseases like *deciduoma malignum* are as frequent as other forms of tumors. In our opinion also, the lack of references to the work of others is a serious fault. There is a very good brief summary on the different animal parasites, with explanatory plates. The chapter of technic at the end of the book is quite sufficient for the needs of the student.

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Chicago, The Year Book Publishers, 40 Dearborn St. Price per volume, \$1.50. Price of the series, \$7.50. Vol. I. General Medicine, October, 1902. Edited by Frank Billings, M. D., and H. Salisbury, M. D.

This volume devoted to general medicine contains a most satisfactory review of the diseases of the respiratory system, of the circulation and blood-making organs, the general infectious diseases, metabolic diseases, the diseases of the ductless glands and a number of miscellaneous conditions. The publication of this series, reviewing in individual volumes a given topic, has been a happy solution to the difficulty of supplying the general physician with a comprehensive review of the subject he may be especially interested in without including a mass of literature that he does not care about.

Vol. VI. General Medicine, May, 1903. Edited by Frank Billings, M. D., and H. Salisbury, M. D.

Typhoid fever, paratyphoid, yellow fever, malaria and dysentery, as might almost be expected, receive a due consideration in the early part of this volume, the latter-half being devoted to the diseases of the gastrointestinal tract, and the affections of the liver, pancreas and spleen. It constitutes an extremely valuable record of the progress of medical science, and is a valuable and convenient volume for reference.

Medical News

J. B. Kring, of Bucyrus, has removed to Galion.

R. B. Dimon, of Masillon, has removed to Arkansas.

E. D. Whitlock, of Defiance, has removed to Fostoria.

R. M. Strow, of Cygnet, has removed to West Leipsic.

Herbert Bacon, of Bloomville, was recently stricken blind.

C. O. Hudson comes from Chardon to locate in Painesville.

W. W. Wetmore, of Conneaut, has gone south for the winter.

C. H. Smith, of Marietta, has returned from his western trip.

F. H. Liesen, of Ottoville, has gone to Quincy, Ill., for a short stay.

B. F. Payne, of Steubenville, was reported seriously ill recently.

Robert C. Downey, of Caldwell, died recently at the age of 74 years.

R. A. Hess, of Washington C. H., has removed to South Bloomingville.

W. J. Wilcox comes all the way from St. Johns, Ark., to locate in Burton.

A. M. Sherman, of Kent, left for California during the early part of November.

E. M. Goodwin, of Glenville, and Miss Edith Shumway were recently married.

For the benefit of his creditors, J. H. Lothrop, of Deshler, made an assignment.

J. B. Eckstorm, who is coaching the Kenyon foot-ball team, has located in Gambier.

L. M. Jones has resigned from the board of pension examiners of Greene County.

G. A. Harman has returned to Lancaster after an extended tour to the Pacific coast.

M. J. Longworth tendered his resignation as pension examiner of Auglaize County.

A. M. Marcy, of Hallsville, and J. M. Matthews have formed a partnership at Williamsport.

T. W. Rankin has returned to Columbus after a very delightful three months' trip abroad.

The Springfield Council has adopted stringent regulations regarding the retail sale of milk.

G. N. Jewett, of Kent, has removed to Edgerton, Kansas, where he has bought out a practice.

J. H. Whitacre, of Scotch Ridge, has retired from active practice, and has removed to Perrysburg.

William Piper, Sr., of Painesville, has gone to California, where he will spend the entire winter.

H. S. Jones, of Clark, has sold his practice to Dr Sheldon, of Columbus, and will locate in Lakeville.

A. A. Bradford, of Cambridge, and Miss Alice E. Elder, of Bremen, were married at Columbus recently.

C. S. Ward, of Niles, has been called to Long Branch, Cal., on account of the sudden illness of his father.

Grant Marchant, of Milledgeville, has removed to the Pacific coast. He will locate either in San Francisco or Seattle.

Frank Parker left Mansfield to go to Sandusky where he has received an appointment as Assistant Physician of the Soldiers' Home.

William T. Miller, of Cleveland, has been elected president of the State Board of Health. Frank Warner, of Columbus, is secretary.

A. B. Devers has presented his resignation as Bacteriologist of the City Hospital staff of Cincinnati. Carl Hiller will succeed him.

J. W. Costolo, of Sidney, has been appointed member of the Board of Examining Surgeons of Shelby County, in place of C. E. Smoot, resigned.

During the recent session at Cincinnati, the Mayor and Board of Public Service set aside \$6,000 to pay the salaries of commissioners for the new hospital.

E. L. Tupper, of Ottawa, was injured at Findlay in a railroad accident. This accident occurred during the first week that he was out after a serious illness.

It is rumored that Mr Armour, of Chicago, will establish a chair of orthopedic surgery after the Lorenz school in the capital city of every State in the Union.

C. W. Chidester, of Delaware, has been elected president of the Big Four R. R. Surgeons Association. T. W. Costello, of Sidney, was elected vicepresident.

R. J. Morgan, of Van Wert, who was recently hurt in an automobile accident, let his crutches slip from under him and sustained another fracture of the thigh.

At the last meeting of the State Board of Medical Registration and Examination a resolution was adopted providing for reciprocity in admitting physicians from other States to practice in Ohio.

A meeting of the St. Alexis Alumni Association was held at the Hollenden, Cleveland, at which papers were read by J. E. Cogan and R. Lawler. A. P. Scully discussed a remarkable gunshot wound.

William W. Richardson, son of the late A. B. Richardson, who for a number of years was superintendent of the Columbus State Hospital, has been appointed a member of the staff of the same hospital.

Ludwig Hektoen, of the University of Chicago, has announced a general conclusion that the physical causes of hydrophobia, smallpox and yellow fever are not toxic, or from inherent poisons, but are infectious.

The Greene County Medical Society held a very interesting meeting at which R. H. Grube, of Grape Grove, delivered a lecture on "Suggestive Therapeutics." This paper appears in this issue of the JOURNAL.

The physicians of Liverpool have been asked by the State to gather information in their community in regard to the number of cripples who would be benefited by the establishment of an institution for their care.

At a recent meeting of the faculty of the Western Reserve University it was announced that a gift of \$100,000 had been received from H. M. Hanna, the income of which is to be devoted to the promotion of instruction and research in anatomy and kindred subjects.

The State Board of Medical Registration and Examination revoked the license of Stephen Burkham, of Nevada. His accusers were present and made statements to the Board, but the Doctor did not appear, either in person or by attorney. He may appeal the case to the Governor and Attorney-General.

One of the Columbus evening papers recently published an alleged interview with one of the members of the two Columbus medical schools in which the Doctor said that the falling off in attendance at the medical schools was due to the fact that "money and not brains" is the requirement to enter the colleges. Probably somebody's foot got stepped on.

At the recent meeting of the American Public Health Association held at Washington the committee on vital statistics reported that effective cooperation had been instituted between that Association, the Conference of State Boards of Health, the American Medical Association, the United States Census Bureau and the United States Public Health and Marine-Hospital Service for the improvement of the vital statistics of this country. Among the objects sought are the extension of adequate methods of registration, the use of uniform and comparable tables and rates in bulletins and reports, and the improvement of the international classification of causes of death. A pamphlet on "Statistical Treatment of Causes of Death" has been issued by the United States Census Bureau, requests for which should be addressed to Mr W. A. King, Chief Statistician for Vital Statistics, Census Bureau.

It has special reference to the difficulties encountered in compiling deaths returned from several causes, and asks for the cooperation of the profession in framing a thoroughly satisfactory method of procedure in such cases.

Deaths

D. O. Moorhead, of Mansfield, died recently at the age of 26 years.

Otto Theodore Palm, Sr., 79 years of age, died of old age at his home in Cincinnati.

Granville M. White died at his home on Ryan Road, Columbus, at the age of 68 years.

John W. Hulick died at Springfield. The remains were taken to Olive Branch, Clermont County.

The virtues of several medical journals have been boiled down (at what temperature we can't say) to produce this excellent Cleveland Medical Journal.—The virtues of whole heaps of Barley (malted) have been boiled down (temp. 100° to 110° F.) to produce this excellent



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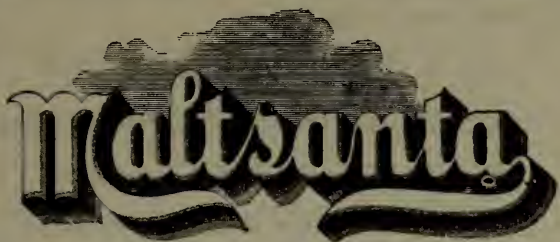
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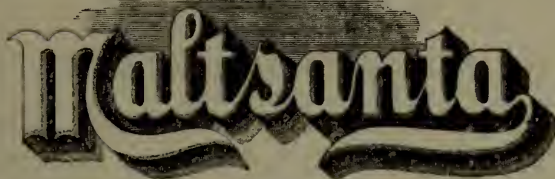
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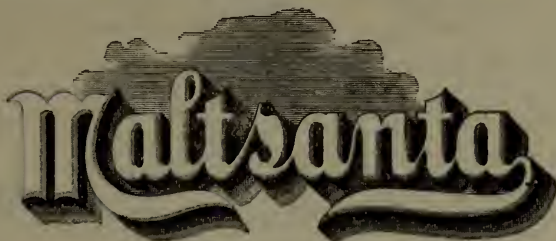
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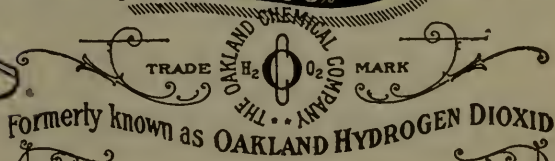
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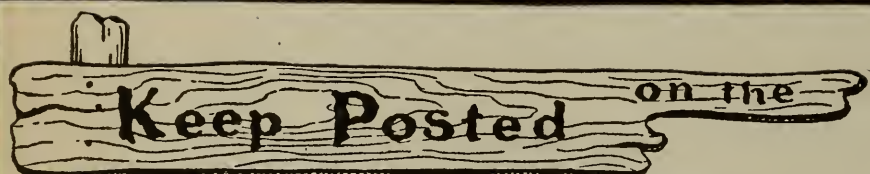
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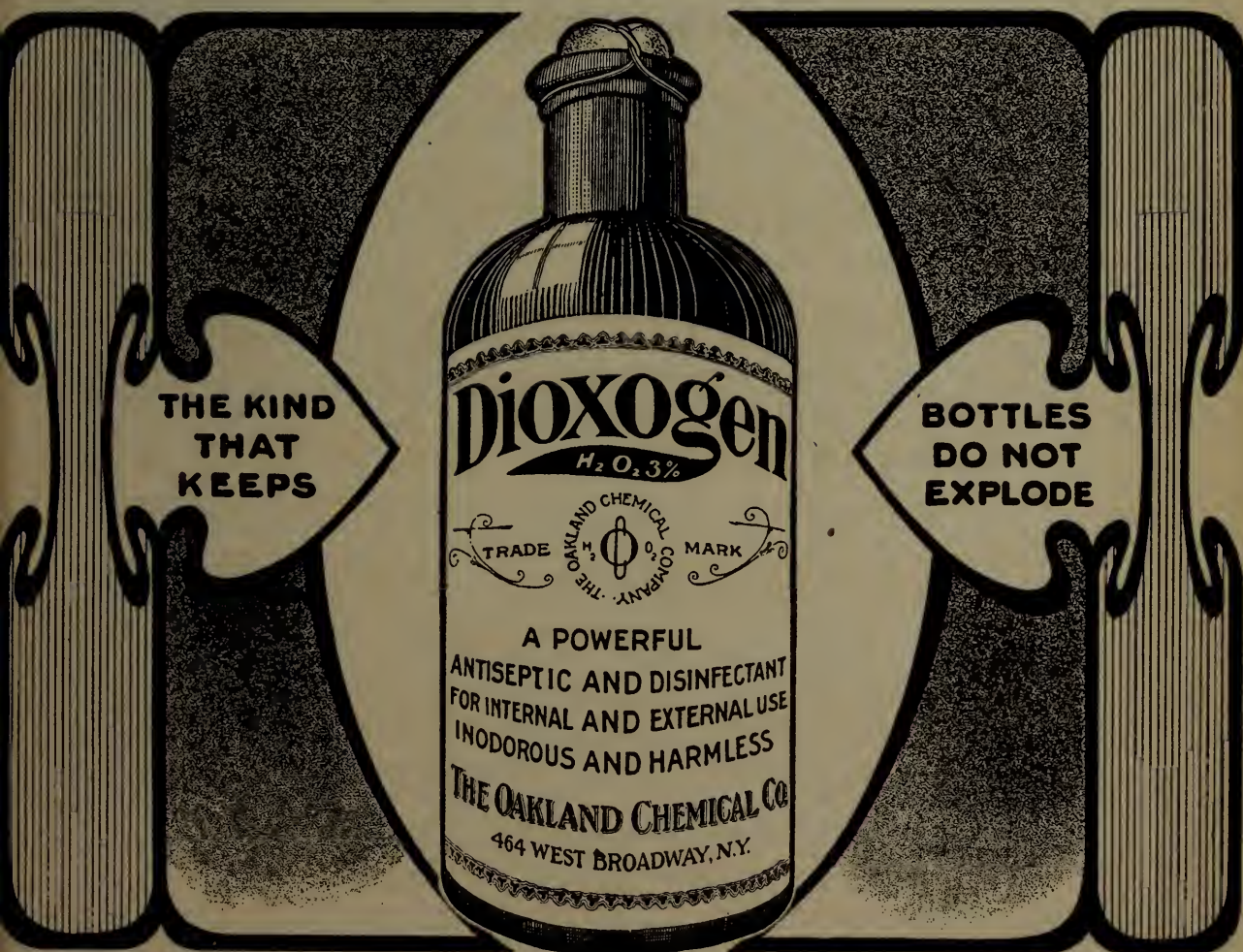
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